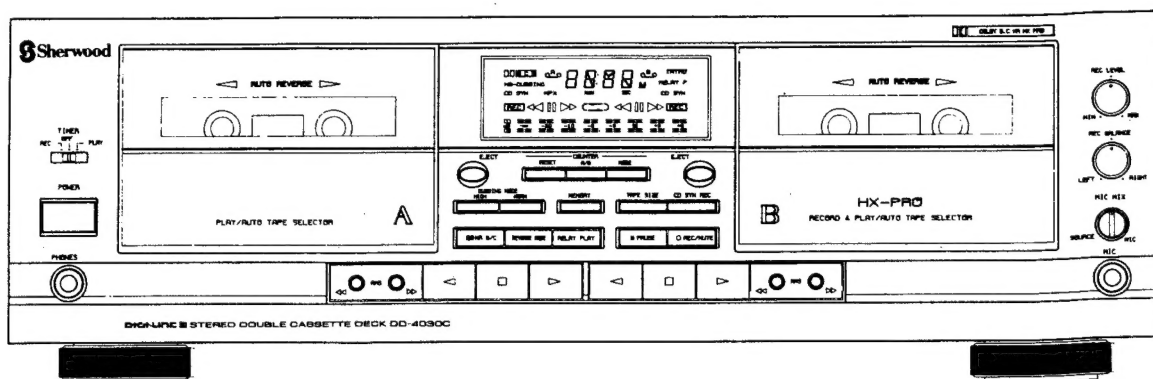


SERVICE MANUAL

DD - 4030C



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 **Sherwood**

SAFETY PRECAUTIONS

WARNING

Service should not be attempted by anyone unfamiliar with the necessary precautions on this player. The following precautions are necessary during servicing.

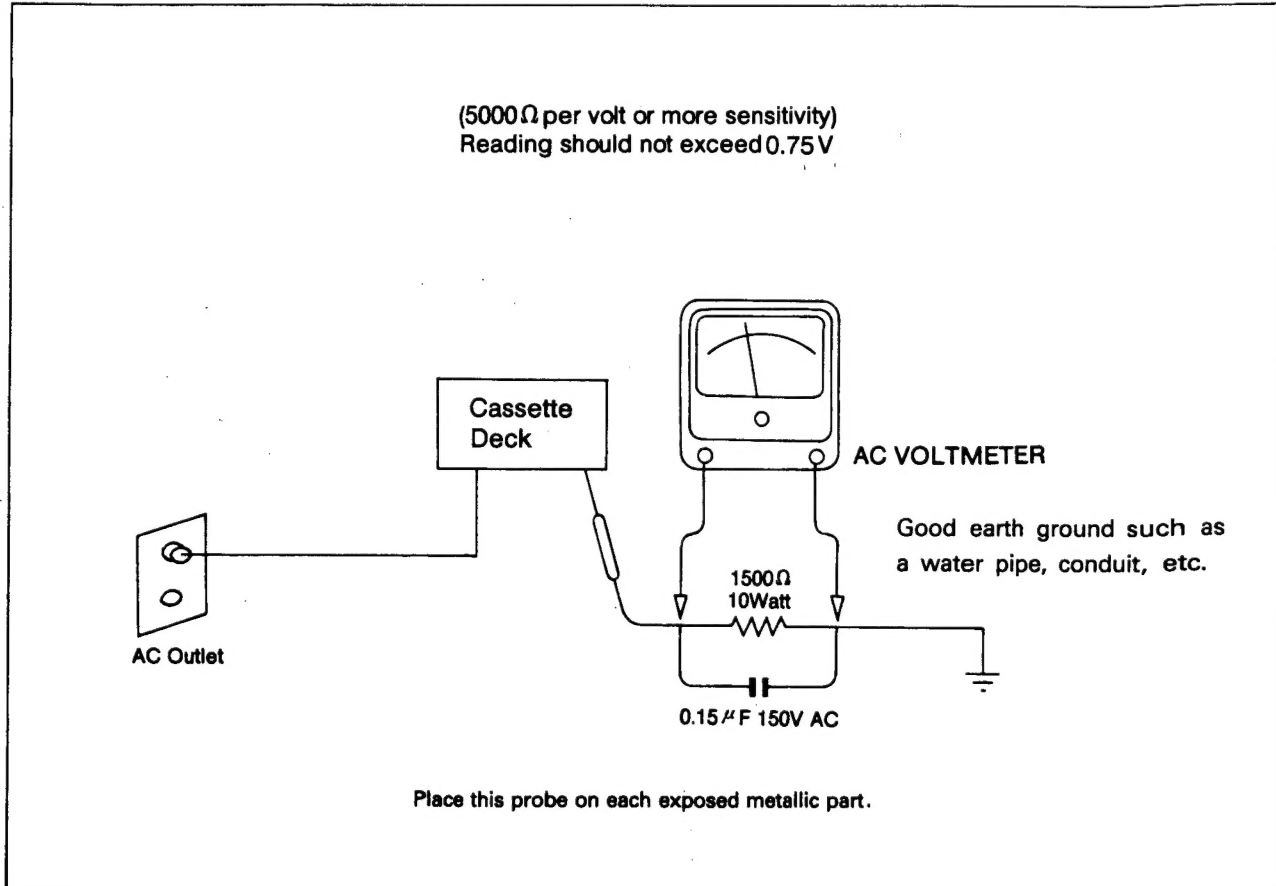
1. Many electrical and mechanical parts in this player have special characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by a \triangle in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the exposed metallic parts of the cabinet, such as terminals, screw heads, metal

overlays, etc., to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (**120V Version only**). (Do not use a line isolation transformer during this check.)

Use an AC voltmeter, having 5000Ω per volt or more sensitivity, in the following manner: Connect a 1500Ω 10 watt resistor paralleled by a $0.15\mu F$ 150V AC capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of a 1500Ω resistor and a $0.15\mu F$ capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 volts RMS. This corresponds to 0.2mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



SPECIFICATIONS

Track Configuration

The 4-track, 2-channel and a rotary reverse type head Stereo Cassette Deck motors

1-Electronic Governor

1-High Torque DC Motor(Reel)

Mechanism

2-Motor, 1-Solenoid Mechanism

Heads

Rec / Playback Head Hard Permalloy

Eraser Head Double Gap Ferrite

Tape Speed $1\frac{7}{8}$ IPS(4.76cm / sec) $\pm 1.0 / \pm 1.0$

(FWD/REV)

Wow Flutter(WRMS) No more than 0.03%

Fast Winding Time(C-60) About 120sec

Input Sensitivity Impedance

MIC 1mV / 4.7k ohms

Line 100mV / 47k ohms

Output Level / Load Impedance

Line 500mV / 1.2k ohms

Signal to Noise Ratio (W.CCIR / ARM)

CrO₂ Tape with Dolby B / C NR More than 65 / 74dB

CrO₂ Tape without Dolby NR More than 55dB

Frequency Response(-20dB REC Dolby NR off)

Normal Tape 20Hz - 17,500kHz, ± 3 dB

CrO₂ Tape 20Hz - 17,500kHz, ± 3 dB

Metal Tape 20Hz - 17,500kHz, ± 3 dB

THD(a 1kHz, 0dB REC) No more than 1.0%

Channel Separation No more than 40dB

Power Consumption 18W

Power Requirements;

A: 120V 60Hz for American / Canadian Version

B: 120 / 220V, 60 / 50Hz for Multi-voltage Version(switchable)

C: 230V 50Hz for General European Version

D: 230V 50Hz for German / Italian Version

E: 240V 50Hz for U.K / Australian Version

F: 230V 50Hz for Swiss / Scandinavian Version

G: 220V 50Hz

Dimensions 440(W) X 125(H) X 245(D)mm

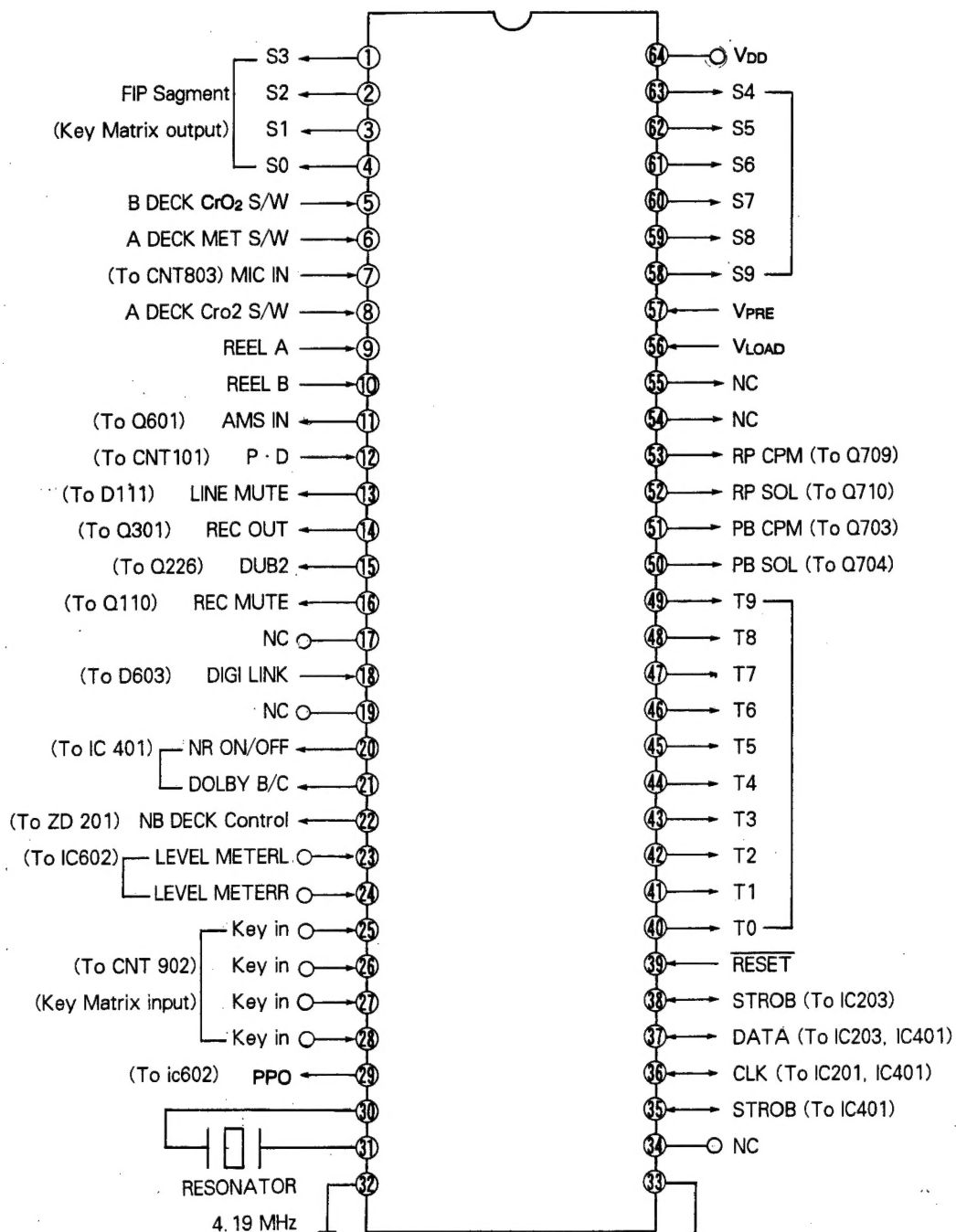
17.3(W) X 4.6(H) X 9.6(D)inches

Weight (Net) 9.2kg (11 lbs, 7.4oz)

Note: Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the European and provides information on regional circuit modification through use of alternate schematic diagram, and information on regional component variations through use of parts list. Design and Specifications subject to change without notice for improvement.

CIRCUIT DESCRIPTION

Pin Assignment(IC 901:μPD 75212)



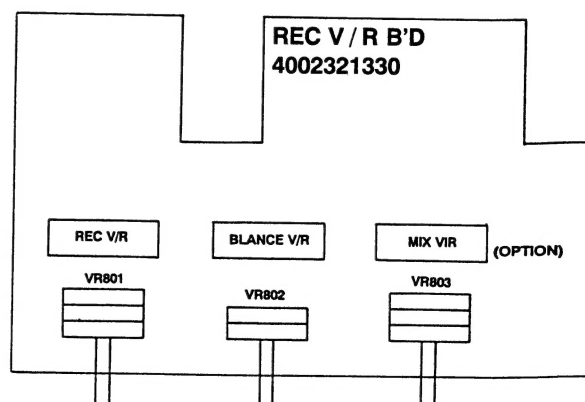
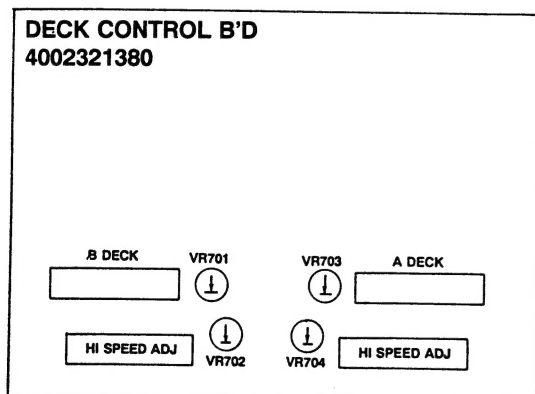
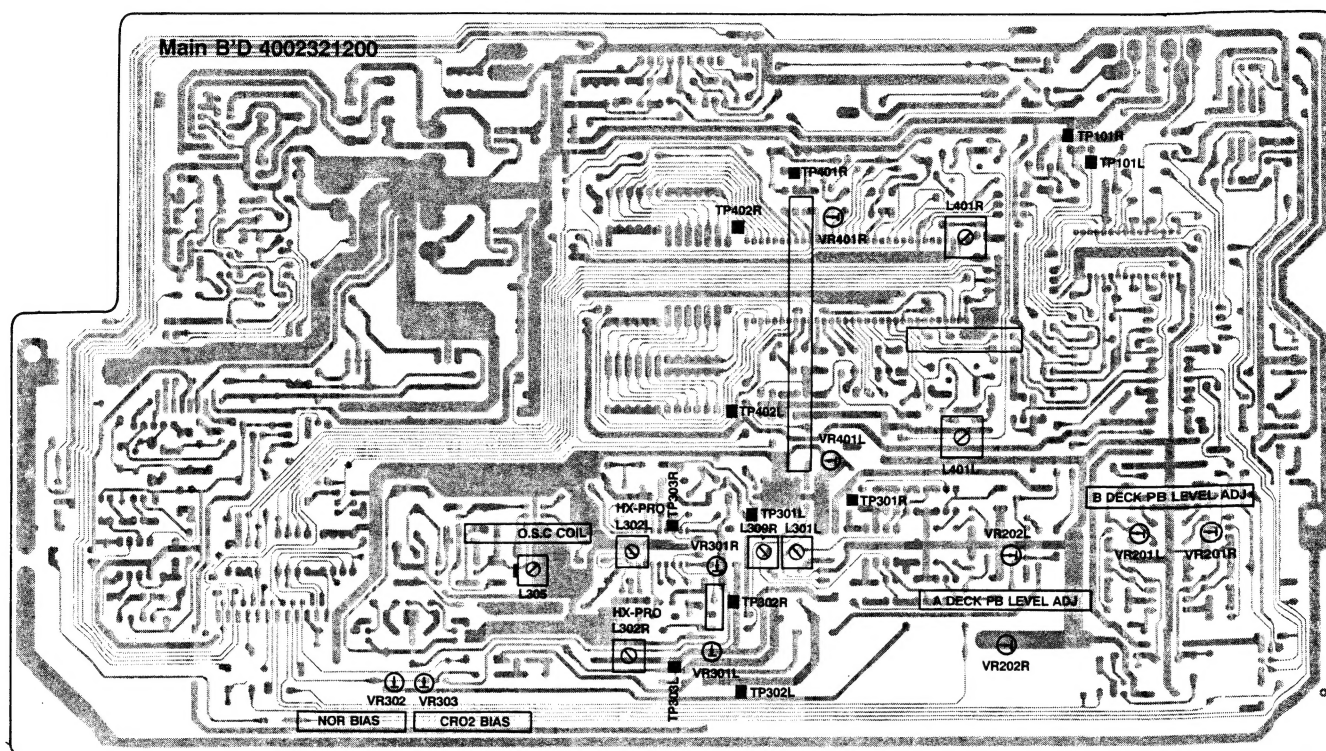
Input and Output Terminal Functions

Pin No	I/O	Description
P5(P00/INT4)	Input	These pins Can be used as 4-bit input port
P6(P01/SCK)	Input/Output	
P7(P02/S0)	Input/output	
P8(P03/S1)	Input	
P9(P10/INT0)	Input	These pins Can be used as 4-bit input port
P10(P11/INT1)	Input	
P11(P12/INT2)	Input	
P12(P13/T10)	Input	
P13~P16 (P20~P22, P23/Buz)	Input/ output	These pins can be used as 4-bit I/O port 2. When used as an output the data is latched. When used as an input port the port outputs are three-state. P2 ₃ can also be used to output square waves for a buzzer. Reset causes these pins to default to the port 2 input
P17~P20 (P30~P33)	Input/ Output	These pins are used for input/output port3. Each bitin this port can be independently programmed to be either an input or output. This port has latched output
P21~P24 (P40~P43)	Input/ Output	These pins are used for input/output port 4; this port has latched outputs. Port 4 outputs can directly drive an LED, Ports 4 and 5 can be paired to gether to function as one 8-bit port. A reset causes this port to be in the input mode.
P25~P28 (P40~P43)	Input/ Output	These pins are used for input/output port 4; this port has latched outputs. Port 4 outputs can directly dirve an LED, Ports 4 and 5 can be paired together to function as one 8-bit port. A reset causes this port be in the input mode.
P29(PP0)	Output	This is an output signal from the timer/pulse generator, and can be either PWM(Pulse-Width Modulated) or a square wave. This pin can also be used as a 1-bit output port. Pin assumes a high impedance state upon reset.
P30~P31 (X1,X2)	lutput	These pins are the main system clock inputs. The clock can be either a caramic or crystal resonator, an external logic signal may also be used as a clock source.
P32(Vss)		System ground
P33~P34 (XT ₁ ~XT ₂)	Input	These pins are the subsystem clock inputs. The clock can be either a ceramic or crystal resonator, an external ligic signal may also be used as a clock source.
P35~P38 (P50~P53)	Input/ output	These pin are used for input/output port 5; this port has latched outputs and its outputs can directly drive an LED. Ports 4 and 5 can be paired together to function as one 8-bit port. A reset causes this port to be in the input mode.
P39(RESET)	Input	This is the reset input, and it is active low
P40~P49 (T0~T9)	Output	These are high-voltage outputs used as FIP controller digit select timing signals. A reset signal sets these pins to the high-impedance state; if mask-option resistors are present the outputs go low.

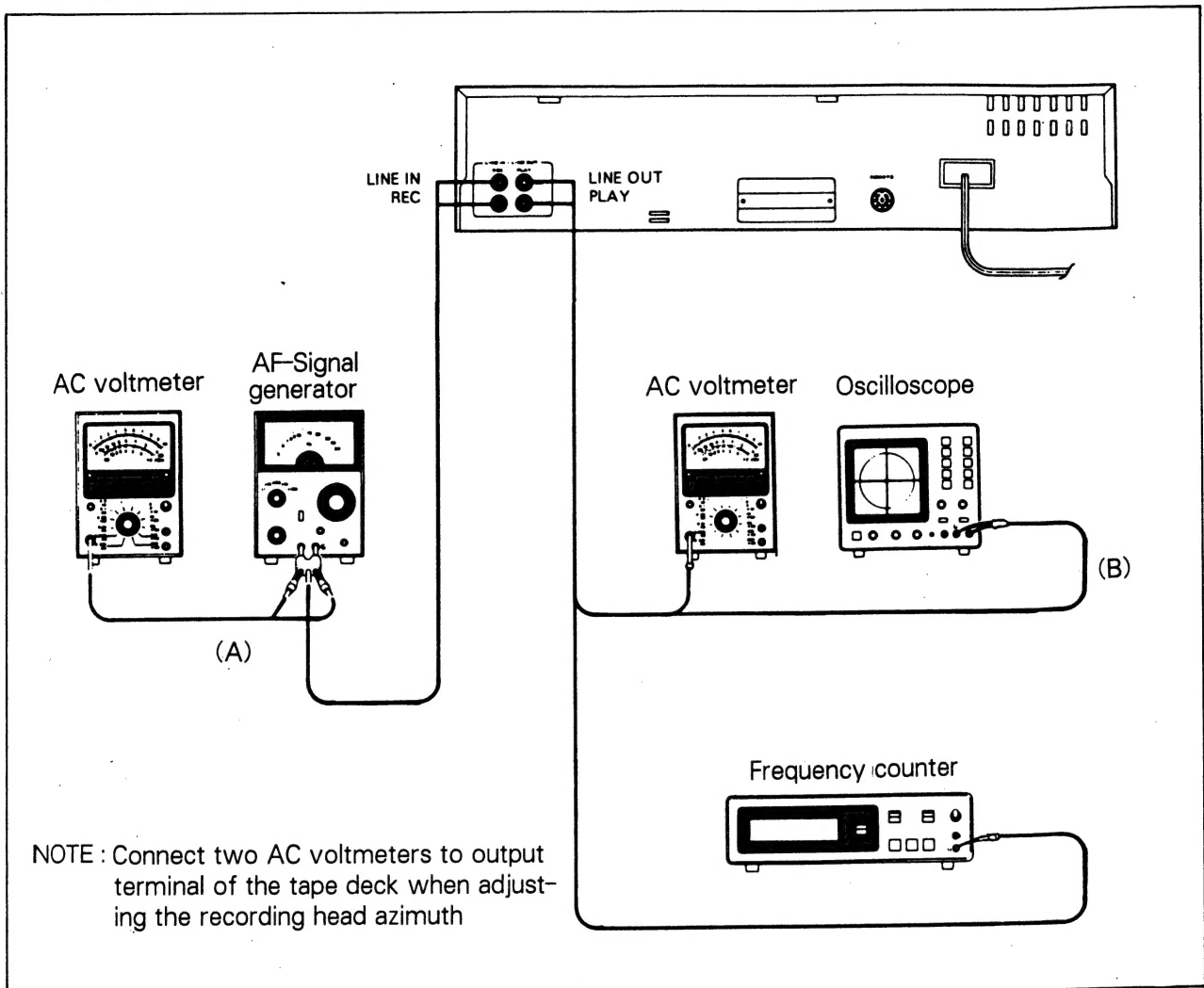
Pin No	I/O	Description
P50~P53 (T10~T13/ S15~S12/ PH3~PH0)	Output	Port H is a 4-bit output-only port, with P-channel opendrain outputs capable of directly driving LEDs. Alternatively, these pins can be used as high voltage digit/segment outputs. A reset signal causes this port to default to the high-impedance state; if mask-option resistors are present the output goes low.
P54~P55 (T14~T15/ S11~S10)	Output	These two pins provide additional digit select or segment lines. When not used for the display they can be used as static outputs.
P56(V _{LOAD})	Input	This pin is used to supply power to the output drivers for the segment lines and digit select. pins of the FIP Controller/driver
P57(V _{PRE})	Input	This is the power supply for the predrivers of the FIP Controller/driver
P1~P4 P58~P63 (S0~S9)	Output	These are high-voltage outputs used as FIP controller segment lines. Pull-down resistors can be selected as a mask-option. A reset signal sets these pins to the high impedance state;
P64(V _{DD})		The system positive power supply pin

ALIGNMENT PROCEDURES

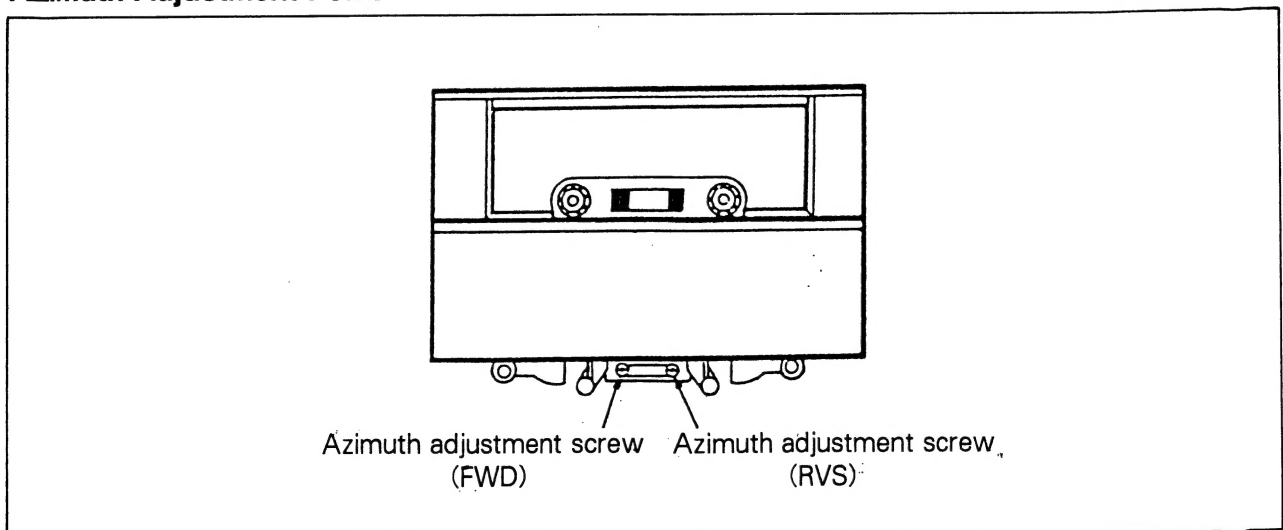
Alignment and Test Points



Test Equipment Connections



Azimuth Adjustment Point



Adjustment

Before Measurements and Adjustment

The following general conditions apply to the electrical measurements and adjustments unless especially stated otherwise.

- Dolby NR switch off.
- Volume control : Recording level VR801 max.
- Use 500mV(200nwb / m) for 0dB as the standard level of the unit.

Test tape

- TCC - 155 ——— Azimuth(14kHz, - 24dB)
- TCC - 122 ——— Tape speed(3kHz, - 10dB)
- TCC - 130 ——— Playback level (Dolby NR ref. tape 400Hz, 0dB)
- TCC - 185C ——— Playback frequency response

— Reference Tape

- Normal ——— TDK AC - 224
- CrO₂ ——— TDK AC - 513
- Metal ——— TDK AC - 712

2. Instrument required

- Audio frequency oscillator
- ACVM or dual channel, mV - meter
- Wow / Flutter meter
- Oscilloscope

Playback section

Adjustments	Test tape	Mode	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Head Azimuth	TCC - 155 14kHz (A.BEX)	FWD Play (A & B Deck)		Line output	ACmV - meter Oscilloscope	Adjusting a left screw of head	Max ● Lissajous' figure become a straight line with an angle 45 degrees
		REV play (A Deck)				Adjusting a right screw of head	
Playback Speed at normal	TCC - 112 3kHz — 10dB(A.BEX)	Play (A & B Deck)			Wow and Flutter-meter	A Deck VR703 & B Deck VR701	3000Hz ± 15Hz
						ACmV - meter	A Deck VR704 & B Deck VR702
Playback Speed at Hi - speed	TCC - 112 3kHz — 10dB(A.BEX)				ACmV - meter		A Deck VR202L/R
						B Deck VR201L/R	
Playback Level	TCC - 130 400Hz 0dB (A.BEX)					ACmV - meter	

Recording section

Adjustments	Test tape	Mode	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Bias OSC Frequency	AC - 712 (TDK)	Rec / Pause		White color of CNT301	Frequency Counter	L305	105kHz ± 400Hz
105kHz trap suppression	AC - 712 (TDK)			TP301L / R	ACmV - meter Oscilloscope	L301L / R	Minimize the reading on AC / M

Adjustments	Test tape	Mode	Apply signal to	Measure on	Read on	Adjust with	Adjust to
Target value Bias	Metal AC - 712			TP4L / R BIAS TP L / R		VR301L / R	AC38V
	CrO ₂ , AC-513					VR303	AC24V
	Normal, AC - 224					VR302	AC14V
Recording Level	AC - 712 (TDK)		400Hz to Line in	TP402L / R		VR401L / R	About 8.5mV *c
Bias	AC - 712 AC - 513 AC - 224 (TDK)	Rec / Pause	400Hz to Line	Line out	ACmV - meter	See Target Value Bias	If it necessary repeat bias adjustment
			4kHz - 6.3kHz 10kHz - 12kHz 14kHz - 16kHz to Line in		Recording number of Frequ - ency with the same input voltage and play them back.		
19kHz suppression	Arbitrary Tape	Rec / Pause	400Hz to Line in	Line input	ACmV - meter	LF Generator	100mV
				Line output	ACmV - meter Oscilloscope	L401L / R	Minimize the reading on ACVM

Note :

- *a. Prior to any measurement or adjustment with the tape running, heads and tape guides should be de-gaussed and cleaned. Reference below the figure.
- *b. The maximum permissible speed variation $\pm 1.0\%$. Moreover the Wow and Flutter can be read. This value should not be exceed 0.2%.
- *c. The voltage on Line out should be $500\text{mV} \pm 20\text{mV}$. If not it reduce the LF signal(bias disabled) as many as the reading was too low or too high by VR201L / R, VR202L / R.
- *d. When the channel is adjusted, this may slightly affect the adjustment of the other channel. If the adjustment is correct, the frequency response curve will be similar to curve b in figure 1, distortion below 3%.

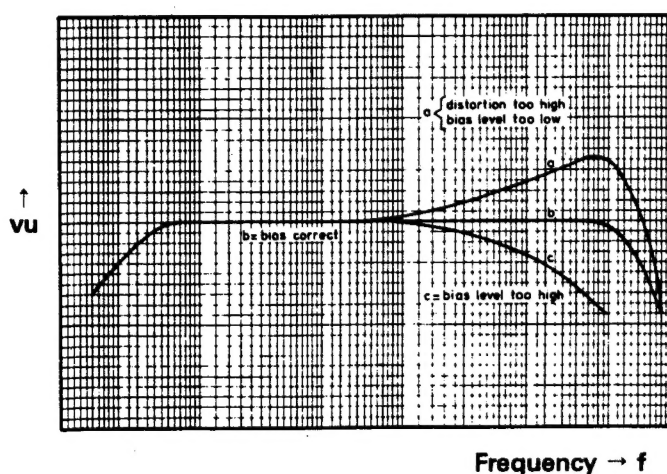


Fig. 1

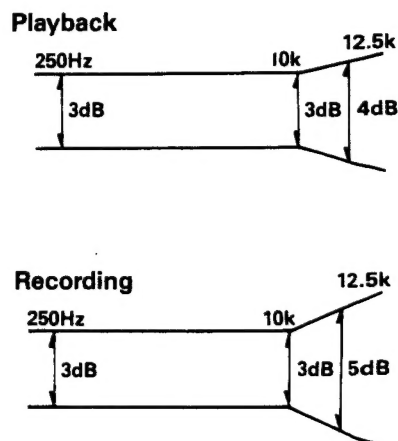
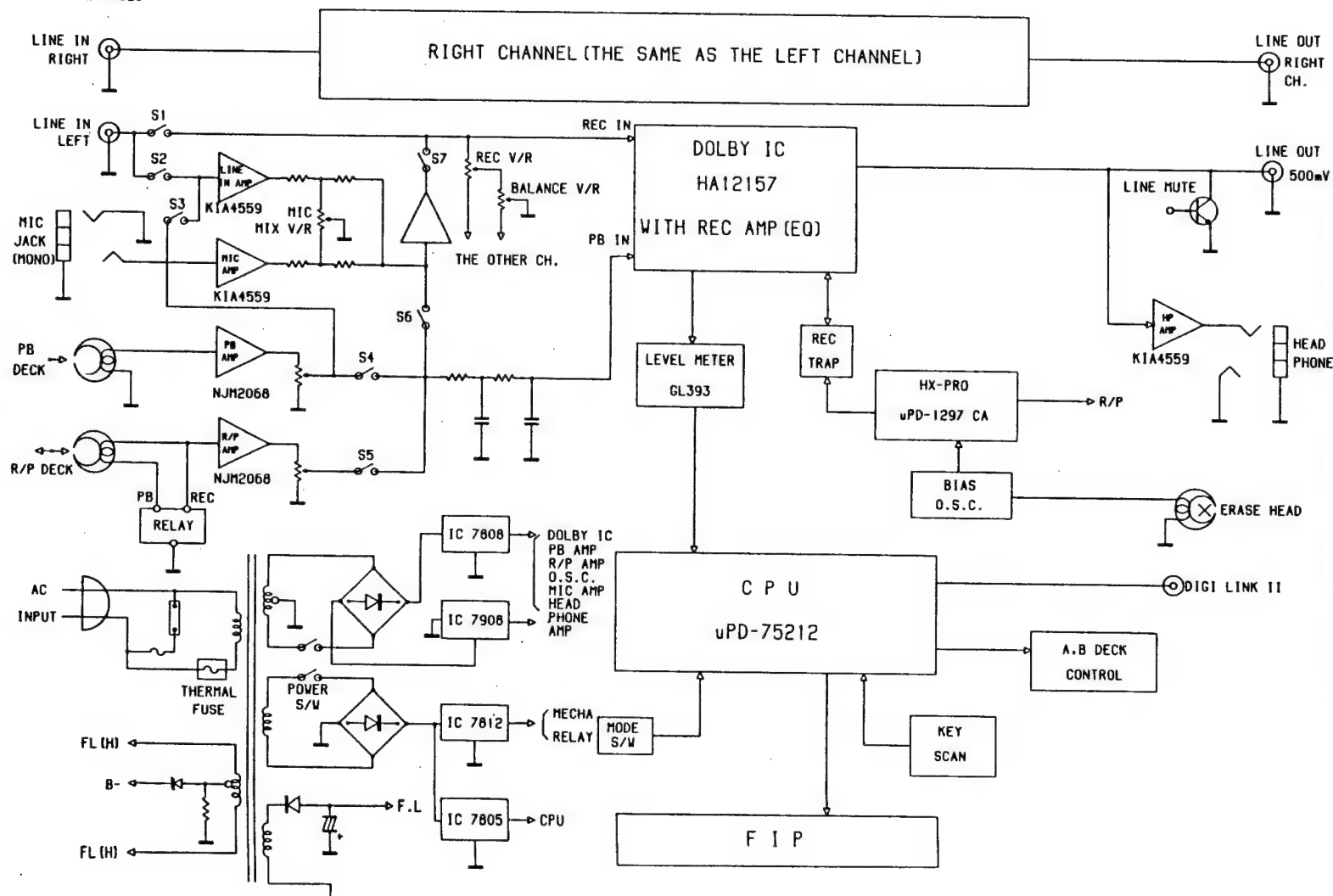


Fig.2 Allowable Playback/Recording
Frequency Response Zone

SI-S7 : SWITCHING CONTROL IC
LC 7823

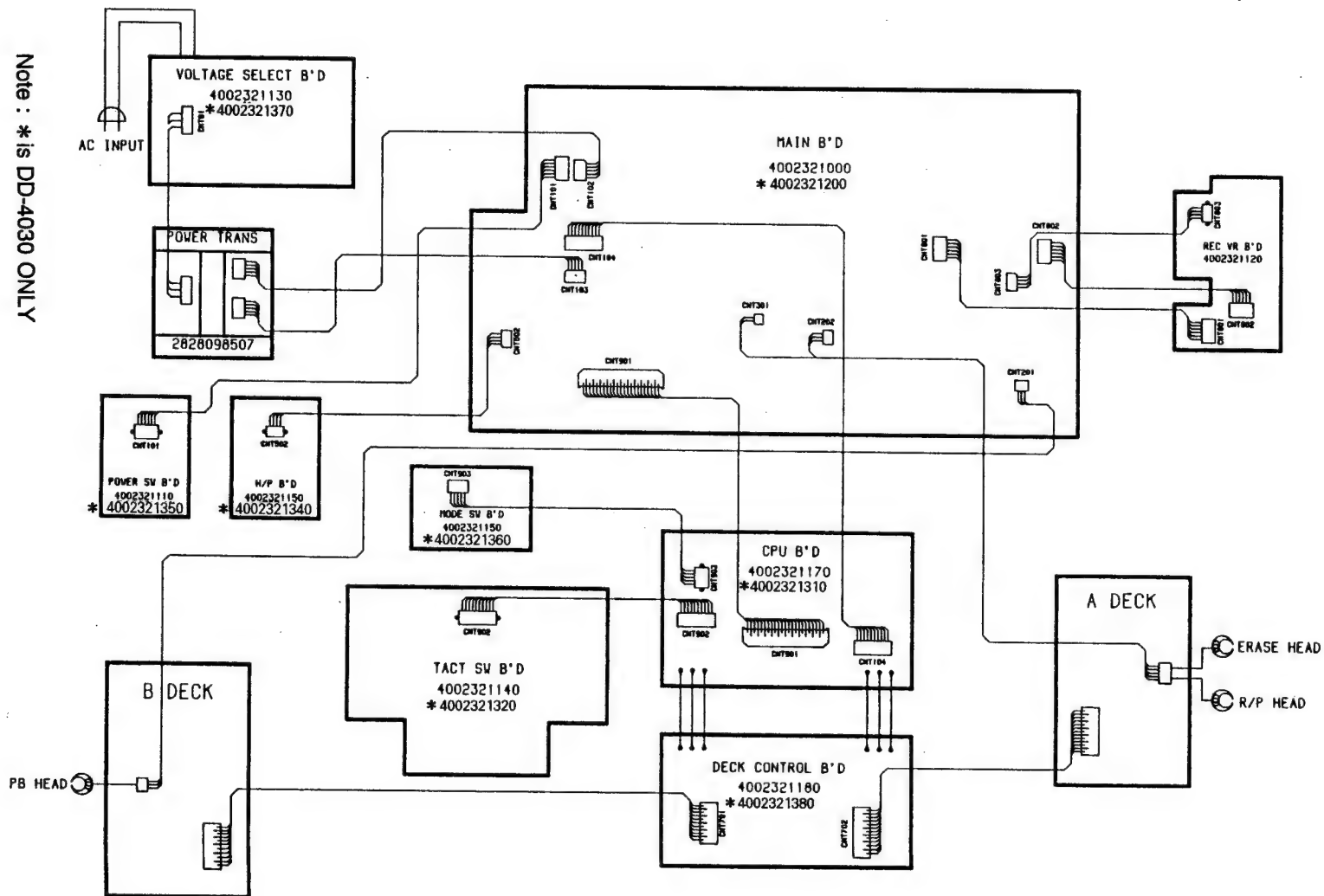


BLOCK DIAGRAM

Model No. : DD-4020 / 4030

WIRING DIAGRAM

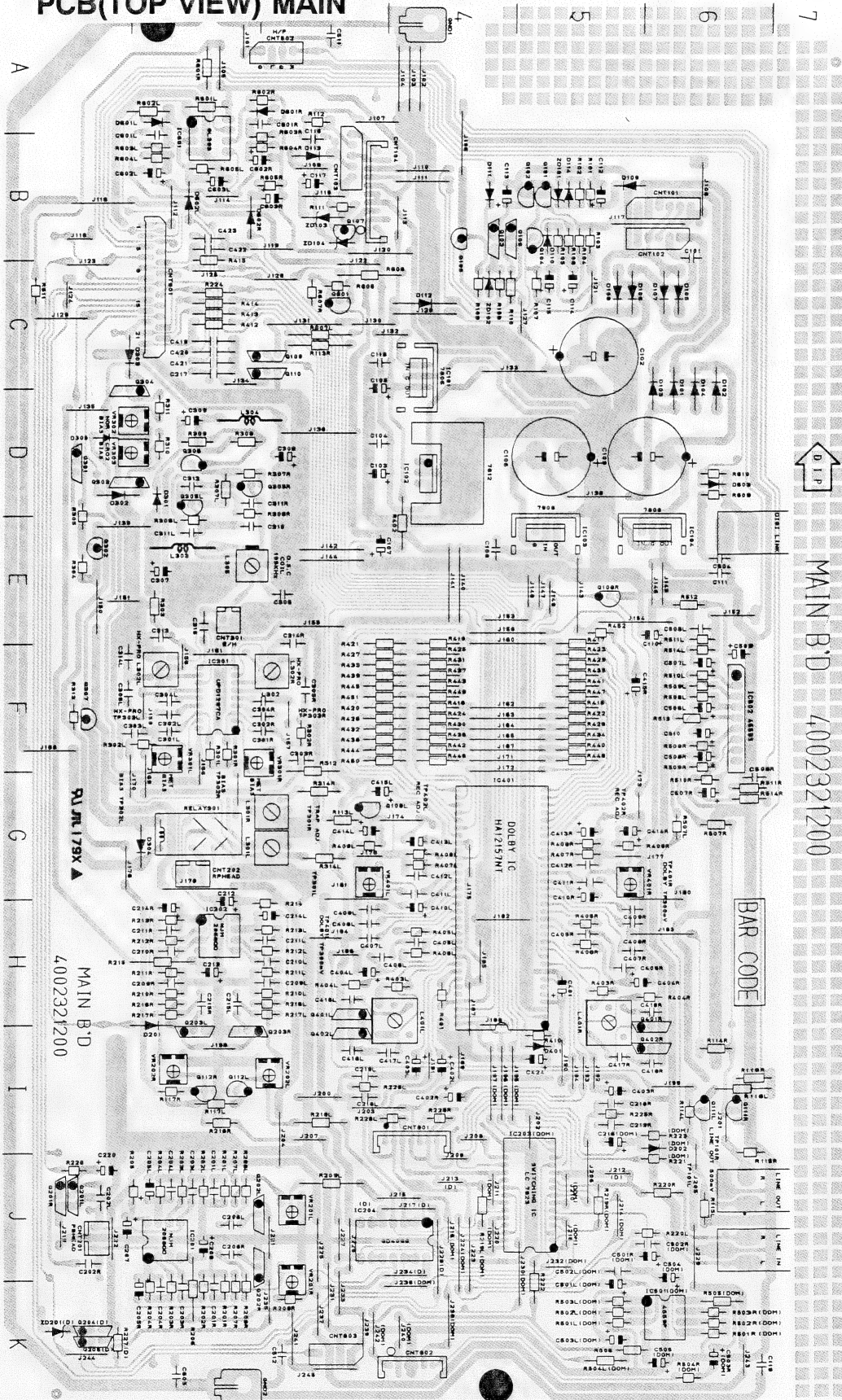
Model No.: DD-4020 / 4030

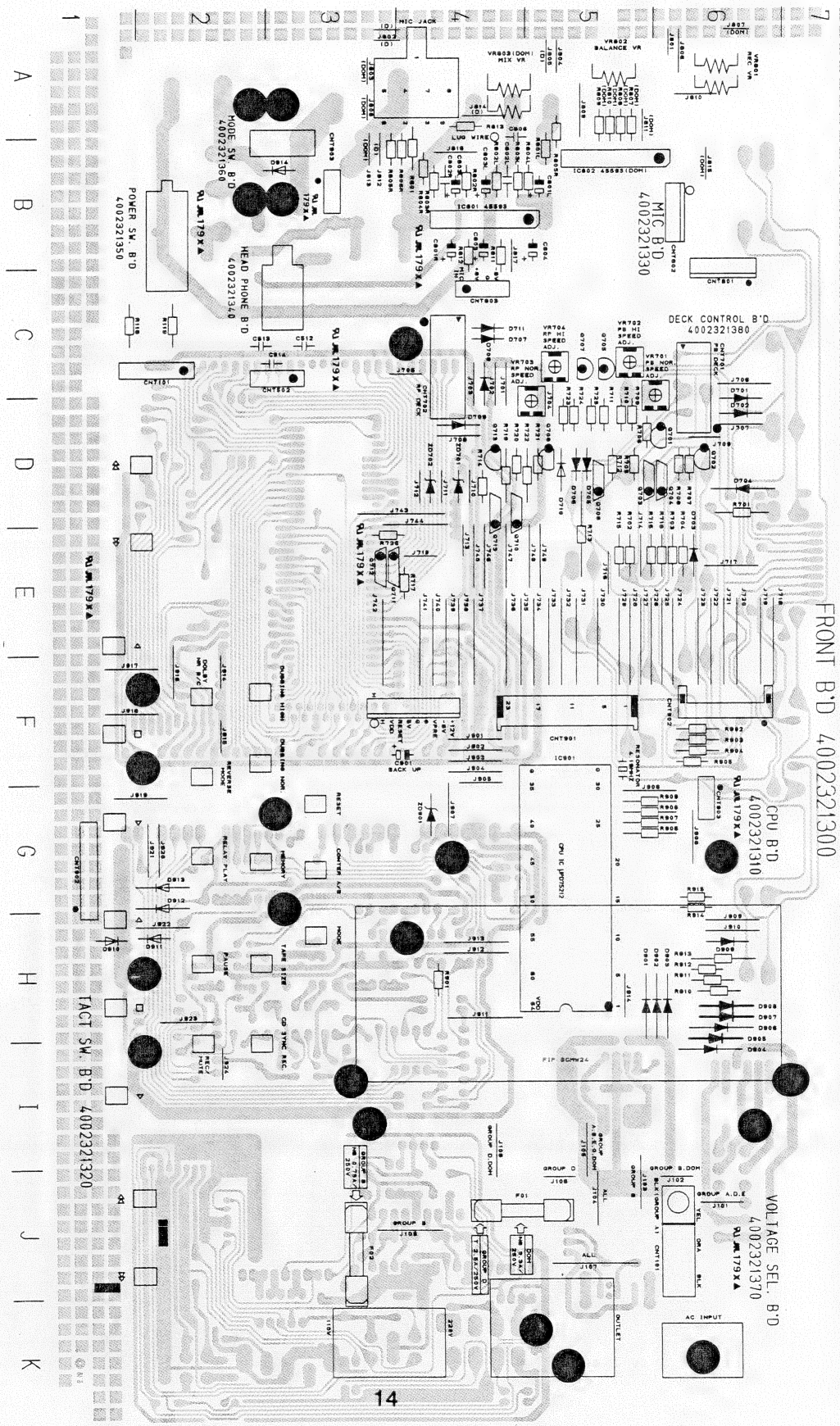


Note : * is DD-4030 ONLY

PC BOARDS

PCB(TOP VIEW) MAIN



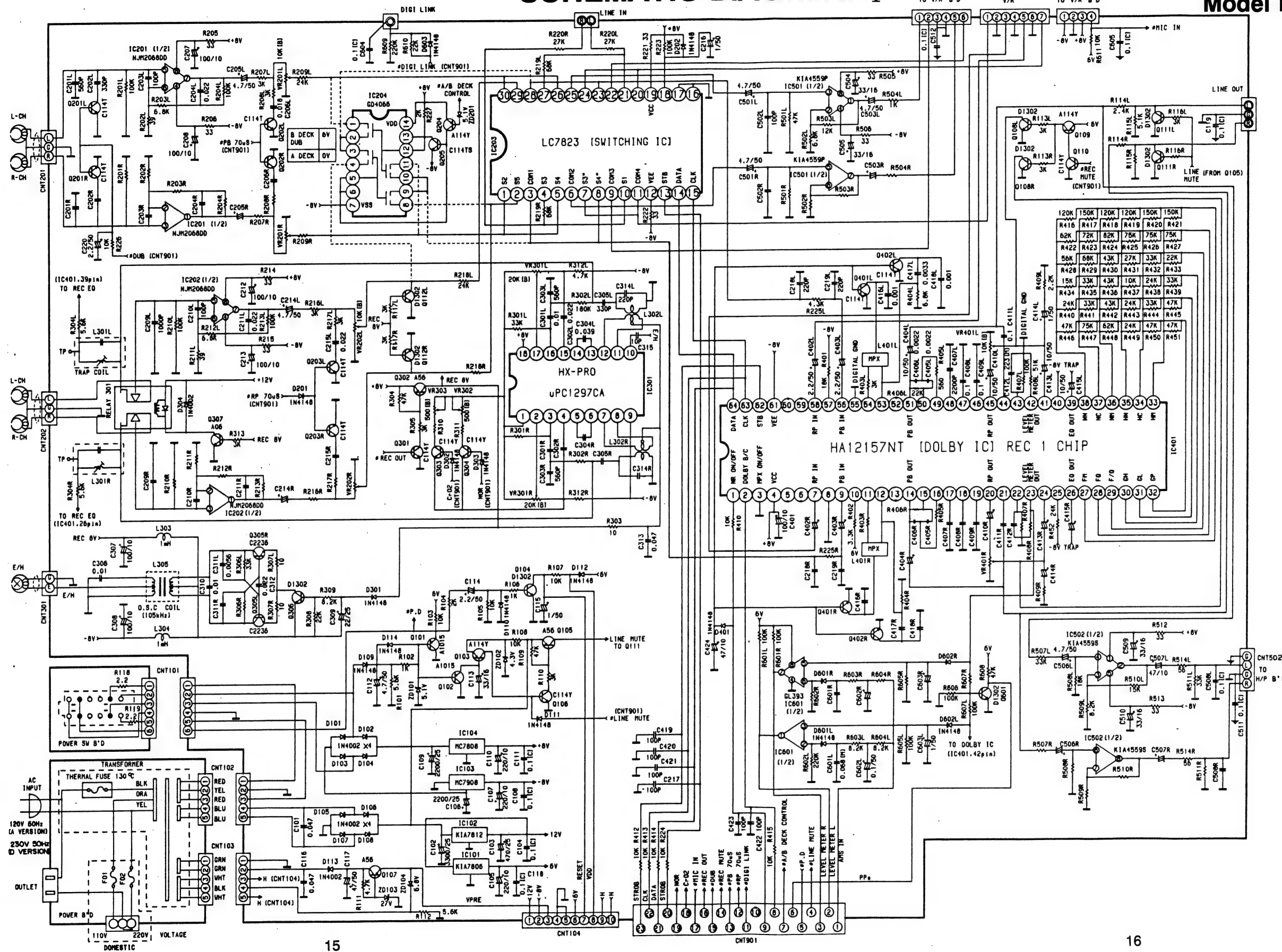


FRONT B.D. 4002321300

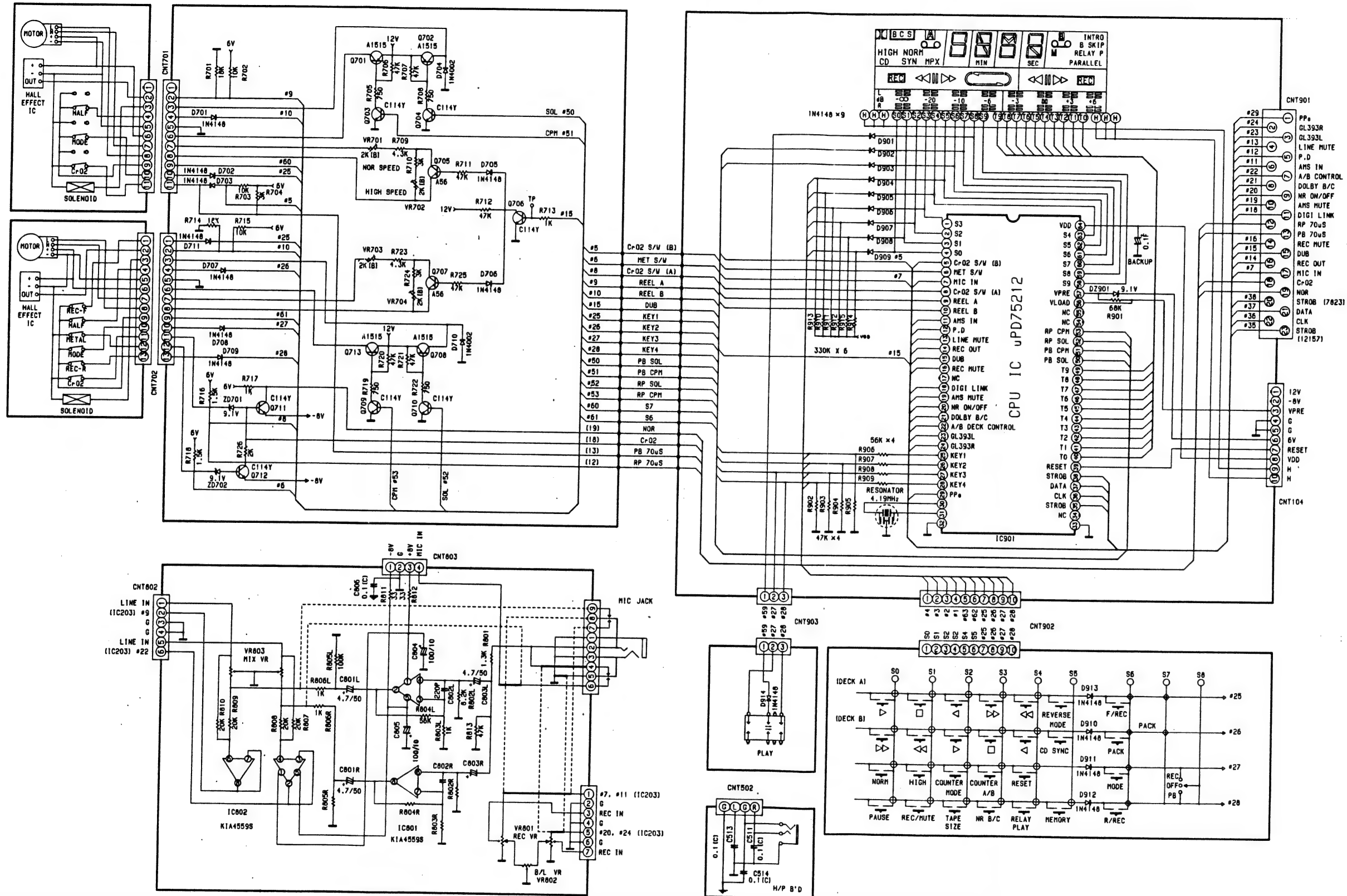
VOLTAGE SEL. B.D.
4002321370

SCHEMATIC DIAGRAM I

Model No.:DD-4030



SCHEMATIC DIAGRAM II



CABINET & CHASSIS

Ref. No.	Description	Part No.	Q'ty	Remark
PACKAGE				
	9722026910	Cushion Poly	1	
	9715000120	Film Soft PE	1	
	049605172141	Box Carton	1	
	9057571333	Label, Version	2 A	
	9057571370	Label, Version	(2) D	
	9057571401	Label, Version	(2) E	
	9057571351	Label, Version	(2) G	
	9057571426	Label, Version	(2) P.T INDO	

ACCESSORIES				
	4328200510	Cord RCA 2P	2	
	4328204510	Cord RCA 1P (W:800)	1	
	9007017220	Manual Instruction	1 A	
	9007017221	Manual Instruction	(1) G	
	9007017222	Manual Instruction	(1) D	
	9007017223	Manual Instruction	(1) E	
	9007017224	Manual Instruction	(1) P.T INDO	

CABINET				
1	048501029911	Front Panel, ABS. Black	1	Dom. Only
	048501029921	Front Panel, ABS. Black	(1)	
2	048535039811	Badge, Sherwood	1	
	048535039711	Badge, Inkel	(1) Dom. Only	
3	8545074310	Button Power	1	
4	6555004380	Spring Button	1	
5	9057079250	Label Silver	2	
6	8562002310	Cassette Case	2	
7	048563006113	Door Deck, Black	1	Dom. Only
	048563006111	Door Deck, Black	(1)	
8	048555037511	Window Door	2	
9	6555011010	Spring Door (A)	1	
10	6555011020	Spring Door (B)	1	
11	8545085811	Knob MIC	1	
12	8545082510	Button	4	
13	048545082411	Bezel	2	
14	048563006114	Door Deck (B), AL. Black	1	Dom. Only
	048563006112	Door Deck (B), AL. Black	(1)	
15	048543052612	Button Main (A), ABS. Black	1	Dom. Only
	048543052611	Button Main (A), ABS. Black	(1)	
16	048543052622	Button Main (B), ABS. Black	1	Dom. Only
	048543052621	Button Main (B), ABS. Black	(1)	
17	048555040621	Window FL	1	
18	048545076011	Knob Phone	2	
19	6515013010	Center Ring	1	Dom. Only
20	8542084520	Knob Slide	1	Dom. Only
21	4618006710	Switch Slide	1	Dom. Only
22	4438005010	Jack Phone, 3P	1	
23	6505092310	Bracket Phone	1	
24	4628035210	Switch Power	1	
25	8545111510	Button Eject	2	
26	6555607310	Spring Eject	2	
27	8543048710	Holder FL	1	
28	2328130303	FIP SCMW 24 NEC	1	
29	7143103910	Locker Eject (A)	1	
30	6555802310	Spring Locker (A)	1	
31	6105115910	Bracket Damper (A)	1	
32	6308001510	Air Damper	2	
33	6122632810	Frame Side (L)	1	
34	5708013010	MECHA Deck (B), CRF 448	1	
35	6103022410	Bracket MECHA	1	
36	8543052510	Button Function	1	
37	6528301410	Fastner	1	
38	6555802320	Spring Locker (B)	1	
39	7143103920	Locker Eject (B)	1	
40	5708013110	MECHA Deck (A), CRF 447	1	
41	3208065310	VR Level (100Kx2)	1	

Ref. No.	Description	Part No.	Q'ty	Remark
42	3208065410	VR Balance (100Kwx1)	1	
43	3208065210	VR MIC (20Kwx2)	1	Dom. Only
44	6505133010	Bracket Volume	1	
48	4438005210	Jack MIC, 9P	1	
49	6103022410	Bracket MECHA	1	
50	6105116010	Bracket Damper (B)	1	
51	7505202410	Heatsink Regulator TR	3	
52	6165145910	Shield Plate	1	
53	046033101711	Foot, AL		Dom. Only
	046033101611	Foot, Hot Stamping, Gold	(2)	
54	046033101611	Foot, Hot Stamping, Gold	2	Dom. Only
	6033101610	Foot (B.K)	(2)	
55	6122416040	Cover Bottom	1	
56	6123620120	Frame Side, R	1	
57	4408104910	Ground Terminal	1	
58	7505206120	Heatsink	1	
59	4438105010	Jack RCA (Digi)	1	
60	4438103110	Jack RCA (4P)	1	
61	△ 4618006610	Voltage Selector	1	Dom. Only
62	△ 4448103210	AC Outlet, Black	1	Dom. Only
62	△ 4448103610	AC Outlet, Black	1	C.D.G.P.T INDO
63	△ 4448103210	AC Outlet, Black	1	A
64	046102035611	Back Chassis	1	Dom. Only
	046102035621	Back Chassis	(1) A	
	046102035631	Back Chassis	(1) B	
	046102035641	Back Chassis	(1) C	
	046102035651	Back Chassis	(1) D	
	046102035661	Back Chassis	(1) E	
	046102035671	Back Chassis	(1) F	
	046102035644	Back Chassis	(1) G	
	046102035638	Back Chassis	(1) P.T INDO	
65	8209540011	Nut M4x V	2	
66	△ 2828098507	Power Trans	1	Dom. Only
	△ 2828099607	Power Trans	(1) A	
	△ 2828099707	Power Trans	(1) D	
	△ 2828000907	Power Trans	(1) E	
	△ 2828098507	Power Trans	(1) P.T INDO	
	△ 2828000447	Power Trans	(1) G	
67	△ 4448003310	AC Power Scocket, Black	1	Dom. C.D.G.P.T INDO
	△ 4448003510	AC Power Scocket, Black	(1) A,B	
68	046122020311	Cover Top	1	
69	△ 4308001810	AC Cord Set, Black	1	Dom. Only
	△ 4308005810	AC Cord Set, Black	(1) A	
	△ 4308005710	AC Cord Set, Black	(1) B	
	△ 4308006610	AC Cord Set, Black	(1) C.D.G.P.T INDO	
	△ 4308006010	AC Cord Set, Black	(1) E	
70	△ 4428300310	AC Adapter, Black	1	Dom. Only

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol \triangle in the parts list and the safety can be of special significance. When replacing a component identified with \triangle , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref. No.	Description	Part No.	Q'ty	Remark
S1	8159230081	Screw #2 WPTC 3x8 ZNY	5	
S2	8109230083	Screw #2 BTC 3x8 ZNB	(13)	
	8109230083	Screw #2 BTC 3x8 ZNB	15	Dom., P.T INDO
S3	8109230081	Screw #2 BTC 3x8 ZNY	34	
S4	8059003310	Screw Shoulder	4	
S5	8109420041	Screw SAM 3x4 ZNY	4	
S6	8109230083	Screw #2 PTC 3x8 ZNB	2	
S7	8159440083	Screw WSAM 4x8 ZNB	4	
S8	8119240061	Screw #2 PTC 4x6 ZNY	2	
S9	8129230083	Screw #2 FTC 3x8 ZNB	2	
W1	8309030011	Washer	3	

P.C.BOARD PARTS LIST

Ref. No.	Description	Part No.	Q'ty	Remark	Ref. No.	Description	Part No.	Q'ty	Remark
P-1	054051010011	PCB ASSEMBLY-MAIN FOR A, D, G			C413L/R	3479210061	Electrolytic, SA	10 uF	35V M
P-1	05405040012	PCB ASSEMBLY-MAIN FOR DOM. ONLY			C414L/R	3479210971	Electrolytic, SA	1 uF	50V M
51	7505202410	Heatsink Regulator TR			C415L/R	3479210061	Electrolytic, SA	10 uF	35V M
58	7505206120	Heatsink			C416L/R	3679102120	Mylar	0.001 uF	100V J
59	4438105010	Jack RCA, 1P (W:800)			C417L/R	3679332120	Mylar	0.0033 uF	100V J
60	4438103110	Jack RCA, 4P			C418L/R	3679102120	Mylar	0.001 uF	100V J
C101	3679473120	Mylar	0.047 uF	100V J	C419-423	3519101935	Ceramic Tubular	100 pF	50V Z
C102	3409333249	Electrolytic, SG	3300 uF	25V M	C424	3479347031	Electrolytic, SG	47 uF	16V M
C103	3479347131	Electrolytic, SG	470 uF	16V M	C501L/R	3479247971	Electrolytic, SA	4.7 uF	50V M
C104	3579104534	Ceramic, Disc	0.1 uF	50V Z	C502L/R	3519101935	Ceramic Tubular	100 pF	50V Z
C105	3479322121	Electrolytic, SG	220 uF	10V M	C503L/R	3479247971	Electrolytic, SA	4.7 uF	50V M
C106	3479322249	Electrolytic, SG	2200 uF	25V M	C504/505	3479310121	Electrolytic, SG	100 uF	10V M
C107	3479322121	Electrolytic, SG	220 uF	10V M	C506L/R	3479247971	Electrolytic, SA	4.7 uF	50V M
C108	3579104534	Ceramic, Disc	0.1 uF	50V Z	C507L/R	3479347031	Electrolytic, SG	47 uF	16V M
C109	3479322249	Electrolytic, SG	2200 uF	25V M	C508L/R	3579104534	Ceramic, Disc	0.1 uF	50V Z
C110	3479322121	Electrolytic, SG	220 uF	10V M	C509/510	3479310121	Electrolytic, SG	100 uF	10V M
C111	3579104534	Ceramic, Disc	0.1 uF	50V Z	C511	3579104534	Ceramic, Disc	0.1 uF	50V Z
C112	3479247971	Electrolytic, SA	4.7 uF	50V M	C512	3579104534	Ceramic, Disc	0.1 uF	50V Z
C113	3479333041	Electrolytic, SG	33 uF	25V M	C601L/R	3679683120	Mylar	0.068 uF	100V J
C114	3479222971	Electrolytic, SA	2.2 uF	50V M	C602L/R	3479210871	Electrolytic, SA	0.1 uF	50V M
C115	3479210971	Electrolytic, SA	1 uF	50V M	C603L/R	3479210871	Electrolytic, SA	0.1 uF	50V M
C116	3679473120	Mylar	0.047 uF	100V J	C604	3579104534	Ceramic, Disc	0.1 uF	50V Z
C117	3479347071	Electrolytic, SG	47 uF	50V M	C606/607	3579104534	Ceramic, Disc	0.1 uF	50V Z
C118/119	3579104534	Ceramic, Disc	0.1 uF	50V Z	CNT101	4428505810	Wafer 6P		
C201L/R	3519561935	Ceramic Tubular	560 pF	50V Z	CNT102	4428506910	Wafer 5P		
C202L/R	3519331935	Ceramic Tubular	330 pF	50V Z	CNT103	4428506910	Wafer 5P		
C203L/R	3519101935	Ceramic Tubular	100 pF	50V Z	CNT104	4428516910	Wafer 10P		
C204L/R	3679223120	Mylar	0.022 uF	100V J	CNT201	4428517610	Wafer 3P		
C205L/R	3479247971	Electrolytic, SA	4.7 uF	50V M	CNT202	4428517610	Wafer 3P		
C206L/R	3679183120	Mylar	0.018 uF	100V J	CNT301	4428517510	Wafer 2P		
C207/208	3479310121	Electrolytic, SG	100 uF	10V M	CNT502	4428505610	Wafer 4P		
C209L/R	3519821935	Ceramic Tubular	820 pF	50V Z	CNT801	4428516610	Wafer 7P		
C210L/R	3519101935	Ceramic Tubular	100 pF	50V Z	CNT802	4428516510	Wafer 6P		
C211L/R	3679223120	Mylar	0.022 uF	100V J	CNT803	4428505610	Wafer 4P		
C212/213	3479310121	Electrolytic, SG	100 uF	10V M	CNT901	4428523960	Wafer FPC 23P		
C214L/R	3479247971	Electrolytic, SA	4.7 uF	50V M	D101-108	2058100135	1N4002, Regulator		
C215L/R	3679223120	Mylar	0.022 uF	100V J	D109-112	2058322101	1N4148, Switching		
C216	3479210971	Electrolytic, SA	1 uF	50V M	D113	2058100135	1N4002, Regulator		
C217	3519101935	Ceramic Tubular	100 pF	50V Z	D114	2058322101	1N4148, Switching		
C218L/R	3519221935	Ceramic Tubular	220 pF	50V Z	D201/202	2058322101	1N4148, Switching		
C219L/R	3519221935	Ceramic Tubular	220 pF	50V Z	D301-303	2058322101	1N4148, Switching		
C220	3479222971	Electrolytic, SA	2.2 uF	50V M	D304	2058100135	1N4002, Regulator		
C301L/R	3679103120	Mylar	0.01 uF	100V J	D601L/R	2058322101	1N4148, Switching		
C302L/R	3679223120	Mylar	0.022 uF	100V J	D602L/R	2058322101	1N4148, Switching		
C303L/R	3519561935	Ceramic Tubular	560 pF	50V Z	D603	2058322101	1N4148, Switching		
C304L/R	3679393120	Mylar	0.039 uF	100V J	IC101	2168606110	IC, KIA 7806P, Regulator		
C305L/R	3519331935	Ceramic Tubular	330 pF	50V Z	IC102	2168606104	IC, KIA 7812P, Regulator		
C306	3679103120	Mylar	0.01 uF	100V J	IC103	2168602102	IC, KC 7908P, Regulator		
C307/308	3479310121	Electrolytic, SG	100 uF	10V M	IC104	2168602101	IC, KC 7808P, Regulator		
C309	3479322041	Electrolytic, SG	22 uF	50V M	IC201	2168020106	NJM 2068DD, PB EQ.		
C310	3679103120	Mylar	0.01 uF	100V J	IC202	2168020106	NJM 2068DD, RP EQ.		
C311L/R	3679562120	Mylar	0.0056 uF	100V J	IC203	2168017140	LC 7823N, Switching		
C312	3679223120	Mylar	0.022 uF	100V J	IC204	2138011101	IC, GD 4066, Switching		
C313	3679473120	Mylar	0.047 uF	100V J	IC301	2168013111	uPC 1297CA, HX-PRO		
C314L/R	3519221935	Ceramic Tubular	220 pF	50V Z	IC401	2168011135	IC, HA 12157NT, Dolby		
C315	3519100935	Ceramic Tubular	10 pF	50V Z	IC501	2168206104	IC, KIA 4559P, Input AMP		
C401	3479310121	Electrolytic, SG	100 uF	10V M	IC502	2168206103	IC, KIA 4559S, H/P AMP		
C402L/R	3479222971	Electrolytic, SA	2.2 uF	50V M	IC602	2168801100	IC, GL 393GS, Level Meter		
C403L/R	3479222971	Electrolytic, SA	2.2 uF	50V M	L301L/R	2658501080	REC Trap		
C404L/R	3479210061	Electrolytic, SA	10 uF	35V M	L302	2638601240	Coil, HX PRO		
C405L/R	3679222120	Mylar	0.0022 uF	100V J	L303/304	2638610284	Inductor 1mH		
C406L/R	3679222120	Mylar	0.0022 uF	100V J	L305	2638201250	BIAS OSC 105kHz		
C407L/R	3679222120	Mylar	0.0022 uF	100V J	L401L/R	2658301120	MPX Coil		
C408L/R	3579104534	Ceramic, Disc	0.1 uF	50V Z	Q101/102	2208206105	TR, KIA 1015Y, Switching, PNP		
C409L/R	3579104534	Ceramic, Disc	0.1 uF	50V Z	Q103	2208222105	DTA 114YS, Switching, PNP		
C410L/R	3479210061	Electrolytic, SA	10 uF	35V M	Q104	2208606112	TR, KTD 1302, Reset, NPN		
C411L/R	3519104935	Ceramic Tubular	0.1 uF	50V Z	Q105	2208206113	MPS A56, Mute, PNP		
C412L/R	3679223120	Mylar	0.022 uF	100V J	Q106	2208622106	DTC 114YS, Mute, NPN		

D,A,
Dom. Ori

Dom. Only
D,A,G

Ref. No.	Description	Part No.	Q'ty	Remark
Q107	2208206113	MPS A56, FIP Drive, PNP		
Q108L/R	2208606112	TR, KTD 1302, REC, Mute, NPN		
Q109	2208222105	DTA 114YS, REC Mute, PNP		
Q110	2208222106	DTC 114YS, REC Mute, NPN		
Q111L/R	2208606112	TR, KTD 1302, Line Mute, NPN		
Q201L/R	2208600108	DTC 114TS, High Dubbing, NPN		
Q202L/R	2208600108	DTC 114TS, PB 70us, NPN		
Q203L/R	2208600108	DTC 114TS, PB 70us, NPN		
Q205	2208222105	DTA 114YS, Switching, PNP		D,A,G
Q206	2208622106	DTC 114YS, Switching, NPN		D,A,G
Q301	2208622106	DTC 114YS, REC Switching, NPN		
Q302	2208206113	MPS A56, REC Switching, PNP		
Q303/304	2208622106	DTC 114YS, REC Bias Switching, NPN		
Q305L/R	2208406117	TR, KTC 2236Y, O.S.C		
Q306	2208606112	TR, KTD 1302, Switching, NPN		
Q307	2208606114	MPS A06, Relay Switching, NPN		
Q401L/R	2208622108	DTC 114TS, MPX Switching, NPN		
Q402L/R	2208622108	DTC 114TS, MPX Switching, NPN		
Q601	2208606112	TR, KTD 1302, AMS Switching, NPN		
R101	3069562970	Cabon film 5.6k ohm 1/5W		
R102	3069102970	Cabon film 1k ohm 1/5W		
R103	3069103970	Cabon film 10k ohm 1/5W		
R104	3069202970	Cabon film 2k ohm 1/5W		
R105	3069103970	Cabon film 10k ohm 1/5W		
R106	3069102970	Cabon film 1k ohm 1/5W		
R107/108	3069103970	Cabon film 10k ohm 1/5W		
R109	3069473970	Cabon film 47k ohm 1/5W		
R110	3069302970	Cabon film 3k ohm 1/5W		
R111	3069472970	Cabon film 4.7k ohm 1/5W		
R112	3069562970	Cabon film 5.6k ohm 1/5W		
R113L/R	3069302970	Cabon film 3k ohm 1/5W		
R114L/R	3069242970	Cabon film 2.4k ohm 1/5W		
R115L/R	3069512970	Cabon film 5.1k ohm 1/5W		
R116L/R	3069302970	Cabon film 3k ohm 1/5W		
R117L/R	3069302970	Cabon film 3k ohm 1/5W		
R118	3069101970	Cabon film 100 ohm 1/5W		
R201L/R	3069104970	Cabon film 100k ohm 1/5W		
R202L/R	3069390970	Cabon film 39 ohm 1/5W		
R203L/R	3069682970	Cabon film 6.8k ohm 1/5W		
R204L/R	3069104970	Cabon film 100k ohm 1/5W		
R205/206	3069330970	Cabon film 33 ohm 1/5W		
R207L/R	3069302970	Cabon film 3k ohm 1/5W		
R208L/R	3069302970	Cabon film 3k ohm 1/5W		
R209L/R	3069243970	Cabon film 24k ohm 1/5W		
R210L/R	3069104970	Cabon film 100k ohm 1/5W		
R211L/R	3069390970	Cabon film 39 ohm 1/5W		
R212L/R	3069682970	Cabon film 6.8k ohm 1/5W		
R213L/R	3069104970	Cabon film 100k ohm 1/5W		
R214/215	3069330970	Cabon film 33 ohm 1/5W		
R216L/R	3069302970	Cabon film 3k ohm 1/5W		
R217L/R	3069302970	Cabon film 3k ohm 1/5W		
R218L/R	3069243970	Cabon film 24k ohm 1/5W		
R219L/R	3069683970	Cabon film 68k ohm 1/5W		
R220L/R	3069273970	Cabon film 27k ohm 1/5W		
R221/222	3069330970	Cabon film 33 ohm 1/5W		
R223	3069104970	Cabon film 100k ohm 1/5W		
R224	3069103970	Cabon film 10k ohm 1/5W		
R225L/R	3069432970	Cabon film 4.3k ohm 1/5W		
R226	3069103970	Cabon film 10k ohm 1/5W		
R227	3069202970	Cabon film 2k ohm 1/5W		D,A,G
R301L/R	3069333970	Cabon film 33k ohm 1/5W		
R302L/R	3069184970	Cabon film 180k ohm 1/5W		
R303	3069100970	Cabon film 10 ohm 1/5W		
R304	3069473970	Cabon film 47k ohm 1/5W		
R305	3069302970	Cabon film 3k ohm 1/5W		
R306L/R	3069333970	Cabon film 33k ohm 1/5W		
R307L/R	3069100970	Cabon film 10 ohm 1/5W		
R308	3069223970	Cabon film 22k ohm 1/5W		

Ref. No.	Description	Part No.	Q'ty	Remark
R309	3069822970	Cabon film 8.2k ohm 1/5W		
R312	3069472970	Cabon film 4.7k ohm 1/5W		
R313	3069302970	Cabon film 3k ohm 1/5W		
R314L/R	3069562970	Cabon film 5.6k ohm 1/5W		
R401	3069183970	Cabon film 18k ohm 1/5W		
R402	3069332970	Cabon film 3.3k ohm 1/5W		
R403L/R	3069302970	Cabon film 3k ohm 1/5W		
R404L/R	3069682970	Cabon film 6.8k ohm 1/5W		
R405L/R	3069223970	Cabon film 22k ohm 1/5W		
R406L/R	3069561970	Cabon film 560 ohm 1/5W		
R407L/R	3069104970	Cabon film 100k ohm 1/5W		
R408L/R	3069513970	Cabon film 51k ohm 1/5W		
R409L/R	3069222970	Cabon film 2.2k ohm 1/5W		
R410	3069103970	Cabon film 10k ohm 1/5W		
R411	3069102970	Cabon film 1k ohm 1/5W		
R412/415	3069103970	Cabon film 10k ohm 1/5W		
R416	3069124970	Cabon film 120k ohm 1/5W		
R417	3069154970	Cabon film 150k ohm 1/5W		
R418/419	3069124970	Cabon film 120k ohm 1/5W		
R420/421	3069154970	Cabon film 150k ohm 1/5W		
R422	3069623970	Cabon film 62k ohm 1/5W		
R423	3069753970	Cabon film 75k ohm 1/5W		
R424	3069823970	Cabon film 82k ohm 1/5W		
R425	3069753970	Cabon film 75k ohm 1/5W		
R426/427	3069753970	Cabon film 75k ohm 1/5W		
R428	3069563970	Cabon film 56k ohm 1/5W		
R429	3069683970	Cabon film 68k ohm 1/5W		
R430	3069433970	Cabon film 43k ohm 1/5W		
R431	3069273970	Cabon film 27k ohm 1/5W		
R432	3069333970	Cabon film 33k ohm 1/5W		
R433	3069223970	Cabon film 22k ohm 1/5W		
R434	3069153970	Cabon film 15k ohm 1/5W		
R435	3069333970	Cabon film 33k ohm 1/5W		
R436	3069433970	Cabon film 43k ohm 1/5W		
R437	3069103970	Cabon film 10k ohm 1/5W		
R438	3069243970	Cabon film 24k ohm 1/5W		
R439	3069333970	Cabon film 33k ohm 1/5W		
R440	3069243970	Cabon film 24k ohm 1/5W		
R441	3069333970	Cabon film 33k ohm 1/5W		
R442	3069433970	Cabon film 43k ohm 1/5W		
R443	3069243970	Cabon film 24k ohm 1/5W		
R444	3069393970	Cabon film 39k ohm 1/5W		
R445/446	3069473970	Cabon film 47k ohm 1/5W		
R447	3069753970	Cabon film 75k ohm 1/5W		
R448	3069623970	Cabon film 62k ohm 1/5W		
R449	3069243970	Cabon film 24k ohm 1/5W		
R450/451	3069473970	Cabon film 47k ohm 1/5W		
R452	3069243970	Cabon film 24k ohm 1/5W		
R501L/R	3069563970	Cabon film 56k ohm 1/5W		Dom. Only
R502L/R	3069682970	Cabon film 6.8k ohm 1/5W		Dom. Only
R503L/R	3069123970	Cabon film 12k ohm 1/5W		Dom. Only
R504L/R	3069102970	Cabon film 1k ohm 1/5W		Dom. Only
R505/506	3069330970	Cabon film 33 ohm 1/5W		Dom. Only
R507L/R	3069333970	Cabon film 33k ohm 1/5W		
R508L/R	3069183970	Cabon film 18k ohm 1/5W		
R509L/R	3069822970	Cabon film 8.2k ohm 1/5W		
R510L/R	3069153970	Cabon film 15k ohm 1/5W		
R511L/R	3069333970	Cabon film 33k ohm 1/5W		
R512/513	3069330970	Cabon film 33 ohm 1/5W		
R514L/R	3069560970	Cabon film 56k ohm 1/5W		
R601L/R	3069104970	Cabon film 100k ohm 1/5W		
R602L/R	3069104970	Cabon film 220k ohm 1/5W		
R603L/R	3069822970	Cabon film 8.2k ohm 1/5W		
R604L/R	3069822970	Cabon film 8.2k ohm 1/5W		
R605L/R	3069104970	Cabon film 100k ohm 1/5W		
R606	3069104970	Cabon film 100k ohm 1/5W		
R607L/R	3069104970	Cabon film 100k ohm 1/5W		
R608	3069473970	Cabon film 47k ohm 1/5W		

Ref. No.	Description	Part No.	Q'ty	Remark
R609	3069224970	Cabon film	220k ohm	1/5W
R610	3069223970	Cabon film	22k ohm	1/5W
R611	3069103970	Cabon film	10k ohm	1/5W
RELAY301	5525001720	Relay, OVR-SH-212L		
VR201L/R	3248010343	PB Level 10k(B) ohm		
VR202L/R	3248010343	RP Level 10k(B) ohm		
VR301L/R	3248020343	MET BIAS 20k(B) ohm		
VR302	3248322120	NOR. Bias 220(B) ohm		
VR303	3248350143	Cro2 BIAS 500(B) ohm		
VR401L/R	3248010343	REC Level 10k(B) ohm		
ZD101	2258599103	Zener, 5.1V		
ZD102	2258599102	Zener, 4.3V		
ZD103	2258599115	Zener, 27V		
ZD104	2258599121	Zener, 6.8V		
ZD501	2258599103	Zener, 5.1V		D,A,G
P-2	054051010013	PCB ASSEMBLY-POWER SW FOR		A
P-2	054050110014	PCB ASSEMBLY-POWER SW FOR		D
24	4628035210	Switch Power		
CNT101	4119106263	Assembly 6P 260mm to Main Board		
R118/119	3069339270	Carbon Film	3.3 ohm	1/4W A
R118/119	3069229270	Carbon Film	2.2 ohm	1/4W D
P-3	054051010015	PCB ASSEMBLY-REC V/R		
41	3208065310	VR Level, 100KAx2		
42	3208065410	VR Balance, 100KWx1		
43	3208065210	VR MIC, 20KWx2		Dom. Only
48	4438005210	Jack Phone, 9P		
52	6165145910	Shield Plate		
C801L/R	3479247971	Electrolytic, SA	4.7 uF	50V M
C802L/R	3519221935	Ceramic Tubular	220 pF	50V Z
C803L/R	3479247971	Electrolytic, SA	4.7 uF	50V M
C804/805	3479310121	Electrolytic, SG	100 uF	10V M
C806	3579104534	Ceramic, Disc	0.1 pF	50V Z
CNT801	436206188132	Assembly 7P 200mm to Main Board		
CNT802	436206188132	Assembly 6P 180mm to Main Board, Sheld		Dom. Only
CNT803	4119104123	Assembly 4P 120mm to Main Board		
IC801/802	2168206103	IC, KIA 4559S, REC Amp.		
R801	3069132970	Cabon film	1.3k ohm	1/5W
R802L/R	3069822970	Cabon film	8.2k ohm	1/5W
R803L/R	3069132970	Cabon film	1.3k ohm	1/5W
R804L/R	3069563970	Cabon film	56k ohm	1/5W
R805L/R	3069104970	Cabon film	100k ohm	1/5W
R806L/R	3069102970	Cabon film	1k ohm	1/5W
R807-810	3069203970	Cabon film	20k ohm	1/5W
R811/812	3069330970	Cabon film	33 ohm	1/5W
P-4	054051010016	PCB ASSEMBLY-TACT S/W		
CNT902	436210143332	Assembly 10P 140mm to CPU Board		
D910-913	2058322101	1N 4148, Key Scan		
Tact S/W	4658003710			
P-5	054051010017	PCB ASSEMBLY-HEADPHONE		
22	4438005010	Jack Phone, 3P		
C512-514	3579104534	Ceramic, Disc	0.1 uF	50V Z
CNT502	4119104203	Assembly 4P 200mm to Main Board		
P-6	054051010017	PCB ASSEMBLY-MODE SW		
21	4618006710	Switch Slide		Dom. Only
CNT903	4428516410	Wafer 5P		Dom. Only
D914	2058322101	1N 4148, Key Scan		
D915	2058322101	1N 4148, Key Scan		Dom. Only
P-7	054051010019	PCB ASSEMBLY-CPU		
27	8543048710	Holder FL		
28	2328130303	FIP, SCMW 24 NEC		
C901	3439110415	Back up	0.1 F	5.5V Dom. Only
C902	3439247312	Back up	0.047 F	5.5V D,A,G

Ref. No.	Description	Part No.	Q'ty	Remark
CNT901	4428526770	Wafer 23P, FPC		
CNT902	4428516910	Wafer 10P		
CNT903	436403353231	Assembly 3P 350mm to Mode S/W Board		
CNT904	436210242132	Assembly 10P 240mm to Main Board		
D901-909	2058322101	1N 4148, Key Scan		
FIP	2328130303	FL Tube for FIP 8CMW24		
IC901		CPU, uPD 75P 212 ACW-A59		
R901	3069683970	Cabon film	68k ohm	1/5W
R902-905	3069473970	Cabon film	47k ohm	1/5W
R906-909	3069563970	Cabon film	56k ohm	1/5W
ZD901	2258599107	Zener, 9.1V (B)		
	3938101880	Resonator, 4.19 MGW		
P-8	054051010019	PCB ASSEMBLY-DECK CONTROL		
CNT701	4428525320	Wire Trap 11P		
CNT702	4428525340	Wire Trap 13P		
D701-703	2258322101	1N 4148, Switching		
D704	2058100135	1N 4002, Switching		
D705-709	2258322101	1N 4148, Switching		
D710	2058100135	1N 4002, Switching		
D711	2258322101	1N 4148, Switching		
Q701/702	2208722100	TR, 2SA 1515, PB Switching, PNP		
Q703/704	2208622106	DTC 114YS, PB Switching, NPN		
Q705	2208206113	MPS A56, PB Switching, PNP		
Q706	2208622106	DTC 114YS, High Speed Switching, NPN		
Q707	2208206113	MPS A56, RP Switching, PNP		
Q708	2208722100	TR, 2SA 1515, RP Switching, PNP		
Q709-712	2208622106	DTC 114YS, RP Switching, NPN		
Q713	2208722100	TR, 2SA 1515, RP Switching, PNP		
R701	3069183970	Cabon film	18k ohm	1/5W
R702/703	3069103970	Cabon film	10k ohm	1/5W
R704	3069303970	Cabon film	3k ohm	1/5W
R705	3069751970	Cabon film	750 ohm	1/5W
R706/707	3069473970	Cabon film	47k ohm	1/5W
R708	3069751970	Cabon film	750 ohm	1/5W
R709	3069432970	Cabon film	4.3k ohm	1/5W
R710	3069302970	Cabon film	3k ohm	1/5W
R711/712	3069473970	Cabon film	47k ohm	1/5W
R713	3069102970	Cabon film	1k ohm	1/5W
R714	3069183970	Cabon film	18k ohm	1/5W
R715	3069103970	Cabon film	10k ohm	1/5W
R716	3069152970	Cabon film	1.5k ohm	1/5W
R717	3069102970	Cabon film	1k ohm	1/5W
R718	3069152970	Cabon film	1.5k ohm	1/5W
R719	3069751970	Cabon film	750 ohm	1/5W
R720/721	3069473970	Cabon film	47k ohm	1/5W
R722	3069751970	Cabon film	750 ohm	1/5W
R723	3069432970	Cabon film	4.3k ohm	1/5W
R724	3069302970	Cabon film	3k ohm	1/5W
R725	3069473970	Cabon film	47k ohm	1/5W
R726	3069202970	Cabon film	2k ohm	1/5W
VR701-704	3248020253	Semi 2k(B) ohm		
ZD701/702	2258599107	Zener, 9.1V (B)		
P-9	054051010021	PCB ASSEMBLY-VOLTAGE SELECT		
61	△ 4618006610	Voltage Selector		Dom. Only
62	△ 4448103210	AC Outlet, Black		Dom. Only
62	△ 4448103610	AC Outlet, Black		C,D
63	△ 4448103210	AC Outlet, Black		A
67	△ 4448003310	AC Power Scocket, Black		Dom. C,D,
E,F				
67	4448003510	AC Power Scocket, Black		A,B
CNT01	4428525790	Wafer 3P, AC		
F01	5508201330	Fuse, NB 0.3A 250V		
F01	5508302535	Fuse, TL 2.5A 250V		
F02	5508201830	Fuse, NB 0.75A 250V		D
	4255001010	Fuse Clip		Dom. Only

SEMICONDUCTOR LEAD IDENTIFICATION & INTERNAL DIAGRAM

1. DOLBY IC(IC 401 : HA 12157NT)

(1) HA12157NT is silicon monolithic bipolar IC providing Doly noise reduction system electrical volume system and level meter system in one Chip

● Product Line up

TYPE	PACKAGE	DOLBY LEVEL	REC-OUT LEVEL	BP-OUT LEVEL
HA-12157NT	DP-64S	300mV rms	300mVrms	775mVrms

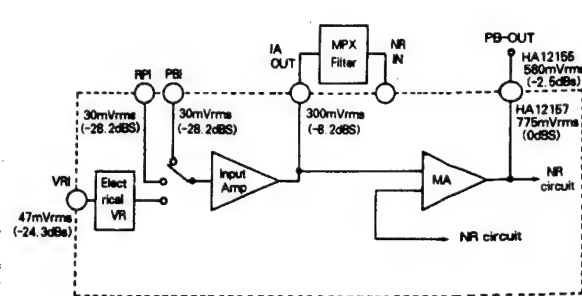
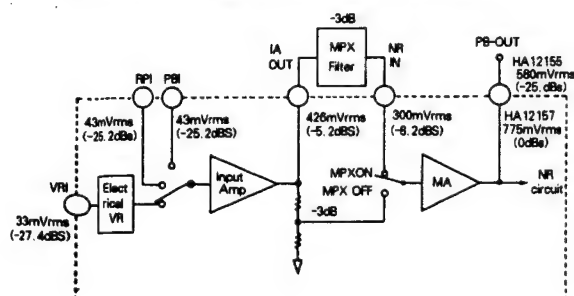
● Threshold Voltage (VTH)

Pin No	LO	Hi	Unit
① ② ③	-0.2~1.0	3.5~5.3	V
⑥② ⑥③ ⑥④	-0.2~1.0	3.5~5.3	V

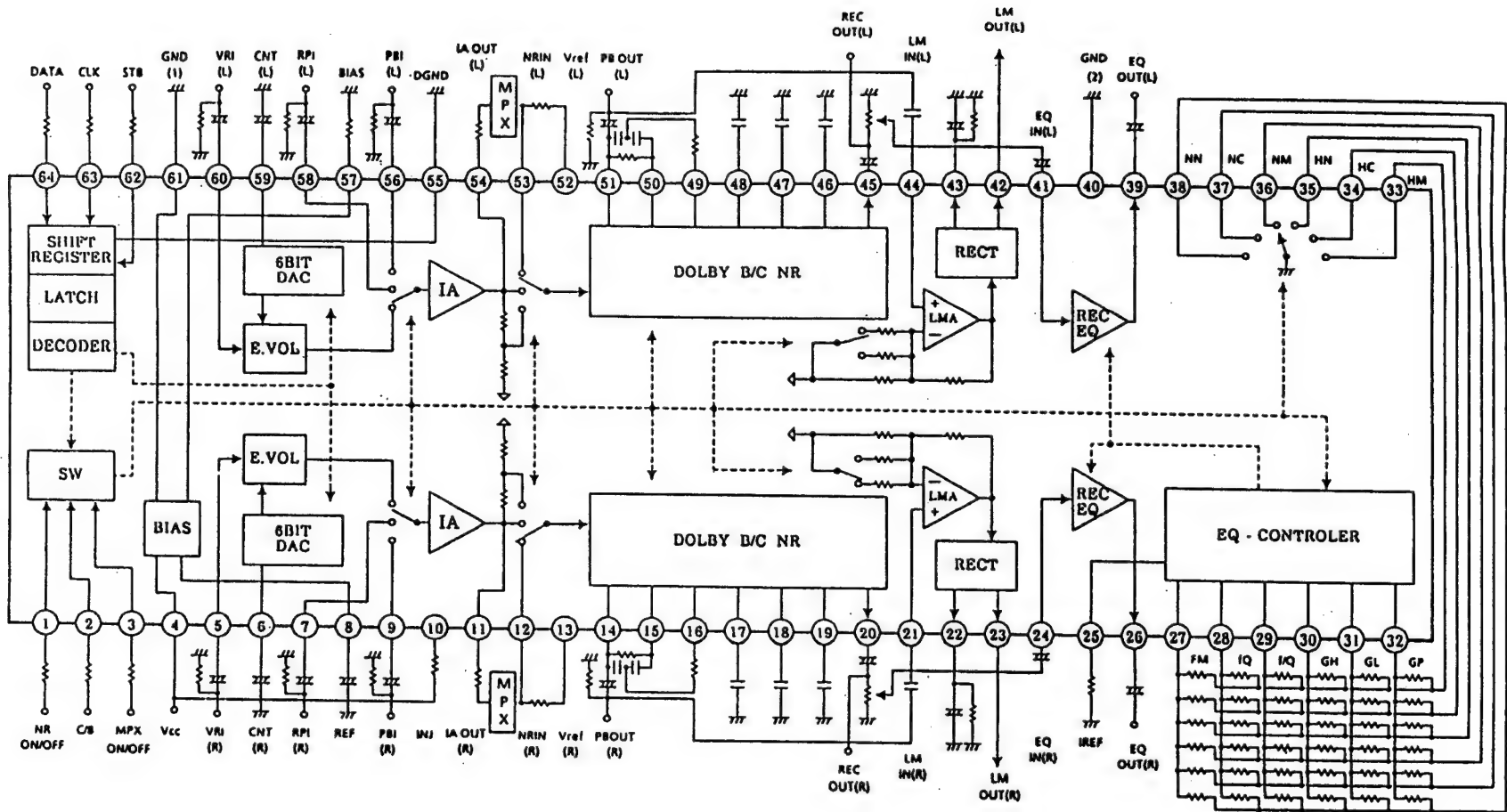
● Switching Truth Table

Pin No	Lo	Hi
①	NR-OFF	NR-ON
②	B-NR	C-NR
③	MPX-ON	MPX-OFF

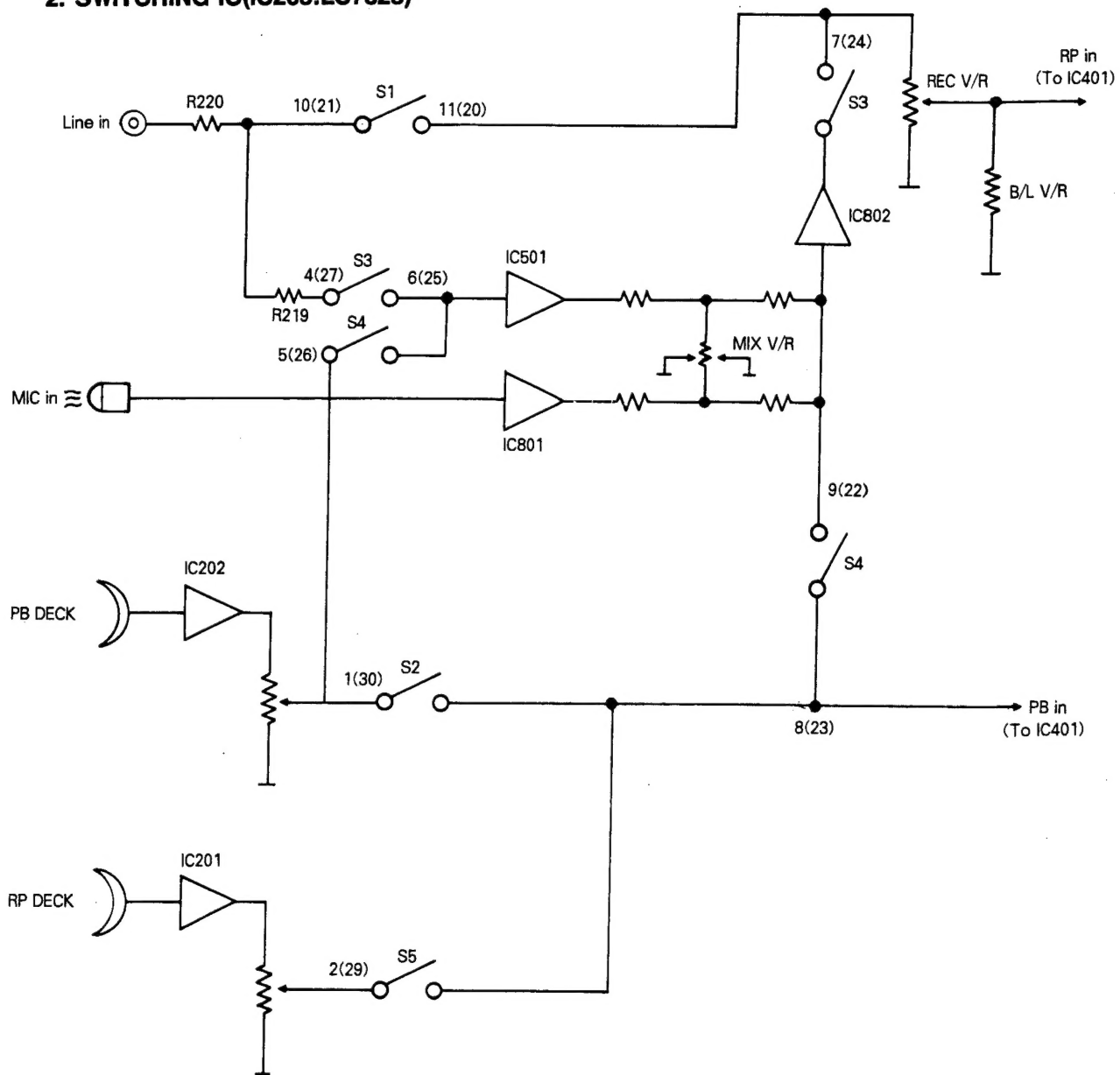
● Input Block Diagram and level Diagram.



HA12155/HA12157(REC I CHIP) BLOCK DIAGRAM



2. SWITCHING IC(IC203:LC7823)

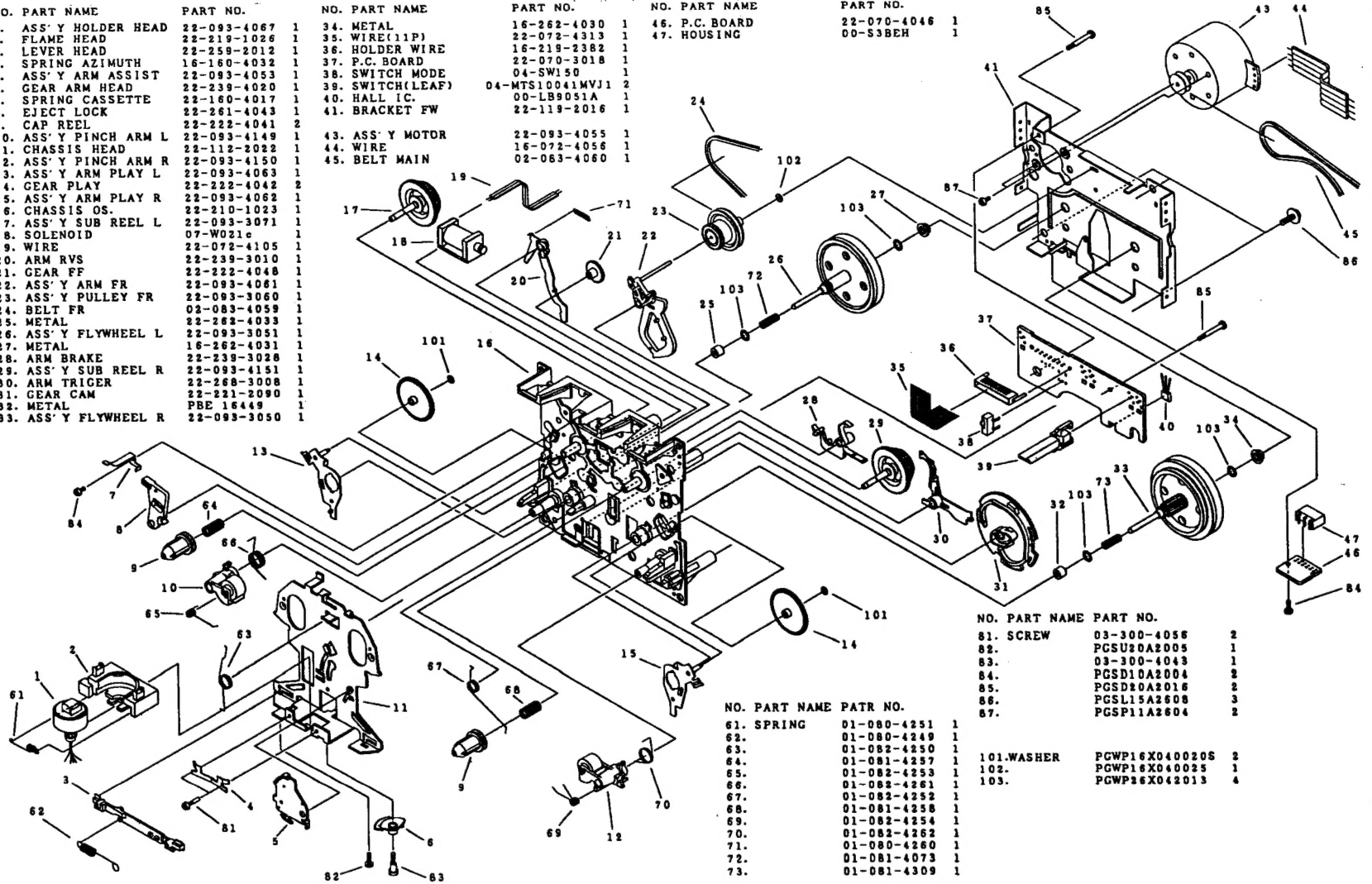


EXPLODED VIEW(I) (DECK MECHANISM ASS'Y)

NO.	PART NAME	PART NO.
1.	ASS'Y HOLDER HEAD	22-093-4067 1
2.	FLAME HEAD	22-219-1026 1
3.	LEVER HEAD	22-259-2012 1
4.	SPRING AZIMUTH	16-160-4032 1
5.	ASS'Y ARM ASSIST	22-093-4053 1
6.	GEAR ARM HEAD	22-239-4020 1
7.	SPRING CASSETTE	22-160-4017 1
8.	EJECT LOCK	22-261-4043 1
9.	CAP REEL	22-222-4041 2
10.	ASS'Y PINCH ARM L	22-093-4149 1
11.	CHASSIS HEAD	22-112-2022 1
12.	ASS'Y PINCH ARM R	22-093-4150 1
13.	ASS'Y ARM PLAY L	22-093-4063 1
14.	GEAR PLAY	22-222-4042 2
15.	ASS'Y ARM PLAY R	22-093-4062 1
16.	CHASSIS OS.	22-210-1023 1
17.	ASS'Y SUB REEL L	22-093-3071 1
18.	SOLENOID	07-W021e 1
19.	WIRE	22-072-4105 1
20.	ARM RVS	22-239-3010 1
21.	GEAR FF	22-222-4048 1
22.	ASS'Y ARM FR	22-093-4061 1
23.	ASS'Y PULLEY FR	22-093-3060 1
24.	BELT FR	02-083-4059 1
25.	METAL	22-262-4033 1
26.	ASS'Y FLYWHEEL L	22-093-3051 1
27.	METAL	16-262-4031 1
28.	ARM BRAKE	22-239-3028 1
29.	ASS'Y SUB REEL R	22-093-4151 1
30.	ARM TRIGGER	22-268-3008 1
31.	GEAR CAM	22-221-2090 1
32.	METAL	PBE 16449 1
33.	ASS'Y FLYWHEEL R	22-093-3050 1

NO.	PART NAME	PART NO.
34.	METAL	16-262-4030 1
35.	WIRE(11P)	22-072-4313 1
36.	HOLDER WIRE	16-219-2382 1
37.	P.C. BOARD	22-070-3018 1
38.	SWITCH MODE	04-SW150 1
39.	SWITCH(LEAF)	04-MTS10041MVJ1 2
40.	HALL IC.	00-LB9051A 1
41.	BRACKET FW	22-119-2016 1
43.	ASS'Y MOTOR	22-093-4055 1
44.	WIRE	16-072-4056 1
45.	BELT MAIN	02-083-4060 1

NO.	PART NAME	PART NO.
46.	P.C. BOARD	22-070-4046 1
47.	HOUSING	00-S3BEH 1



NO.	PART NAME	PART NO.
81.	SCREW	03-300-4056 2
82.	SCREW	PGSU20A2005 1
83.	SCREW	03-300-4043 1
84.	SCREW	PGSD10A2004 2
85.	SCREW	PGSD20A2016 2
86.	SCREW	PGSL15A2608 3
87.	SCREW	PGSP11A2604 2

NO.	PART NAME	PATR NO.
61.	SPRING	01-080-4251 1
62.	SPRING	01-080-4249 1
63.	SPRING	01-082-4250 1
64.	SPRING	01-081-4257 1
65.	SPRING	01-082-4253 1
66.	SPRING	01-082-4261 1
67.	SPRING	01-082-4252 1
68.	SPRING	01-081-4258 1
69.	SPRING	01-082-4254 1
70.	SPRING	01-082-4262 1
71.	SPRING	01-080-4260 1
72.	SPRING	01-081-4073 1
73.	SPRING	01-081-4309 1

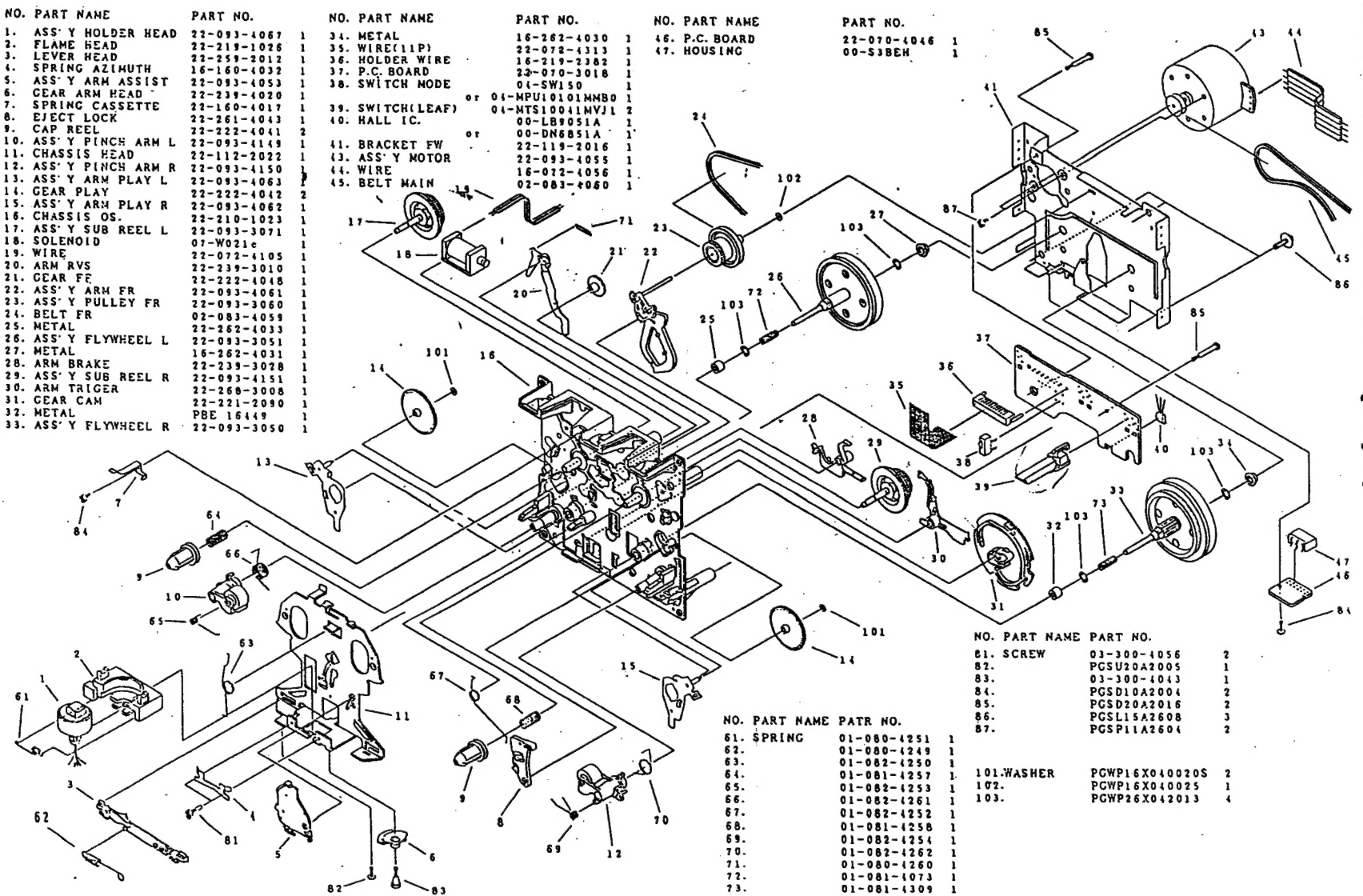
NO.	PART NAME	PATR NO.
101.	WASHER	PGWP16X040020S 2
102.	WASHER	PGWP16X040025 1
103.	WASHER	PGWP16X042013 4

EXPLODED VIEW(II) (DECK MECHANISM ASS'Y)

NO.	PART NAME	PART NO.
1.	ASS'Y HOLDER HEAD	22-093-4067 1
2.	FLAME HEAD	22-219-1026 1
3.	LEVER HEAD	22-259-2012 1
4.	SPRING AZIMUTH	16-160-4032 1
5.	ASS'Y ARM ASSIST	22-093-4053 1
6.	GEAR ARM HEAD	22-239-4020 1
7.	SPRING CASSETTE	22-160-4017 1
8.	EJECT LOCK	22-261-4043 1
9.	CAP REEL	22-222-4041 2
10.	ASS'Y PINCH ARM L	22-093-4149 1
11.	CHASSIS HEAD	22-112-2022 1
12.	ASS'Y PINCH ARM R	22-093-4150 1
13.	ASS'Y ARM PLAY L	22-093-4063 1
14.	GEAR PLAY	22-222-4042 2
15.	ASS'Y ARM PLAY R	22-093-4062 1
16.	CHASSIS OS.	22-210-1023 1
17.	ASS'Y SUB REEL L	22-093-3071 1
18.	SOLENOID	07-W021e 1
19.	WIRE	22-072-4105 1
20.	ARM RVS	22-239-3010 1
21.	GEAR FF	22-222-4048 1
22.	ASS'Y ARM FR	22-093-4061 1
23.	ASS'Y PULLEY FR	22-093-3060 1
24.	BELT FR	02-083-4059 1
25.	METAL	22-262-4033 1
26.	ASS'Y FLYWHEEL L	22-093-3051 1
27.	METAL	16-262-4031 1
28.	ARM BRAKE	22-239-3028 1
29.	ASS'Y SUB REEL R	22-093-4151 1
30.	ARM TRIGGER	22-268-3008 1
31.	GEAR CAM	22-221-2090 1
32.	METAL	PBE 16449 1
33.	ASS'Y FLYWHEEL R	22-093-3050 1

NO.	PART NAME	PART NO.
34.	METAL	16-262-4030 1
35.	WIRE(11P)	22-072-4313 1
36.	HOLDER WIRE	16-219-2382 1
37.	P.C. BOARD	22-070-3018 1
38.	SWITCH MODE	04-SW150 1
39.	SWITCH(LEAF)	04-MPU10101MMS0 1
40.	HALL IC.	04-MTS10041MVJ1 2
41.	BRACKET FW	00-LB9051A 1
42.	ASS'Y MOTOR	00-DN6851A 1
43.	ASS'Y MOTOR	22-119-2016 1
44.	WIRE	22-093-4055 1
45.	BELT MAIN	16-072-4056 1
46.	P.C. BOARD	02-083-4060 1
47.	HOUSING	

NO.	PART NAME	PART NO.
46.	P.C. BOARD	22-070-4046 1
47.	HOUSING	00-S3BEH 1



NO.	PART NAME	PART NO.
81.	SCREW	03-300-4056 2
82.	SCREW	PGSU20A2005 1
83.	SCREW	03-300-4043 1
84.	SCREW	PGSD10A2004 2
85.	SCREW	PGSD20A2016 2
86.	SCREW	PGSL15A2608 3
87.	SCREW	PGSP11A2604 2

NO.	PART NAME	PATR NO.
61.	SPRING	01-080-4251 1
62.	SPRING	01-080-4249 1
63.	SPRING	01-082-4250 1
64.	SPRING	01-081-4257 1
65.	SPRING	01-082-4253 1
66.	SPRING	01-082-4261 1
67.	SPRING	01-082-4252 1
68.	SPRING	01-081-4258 1
69.	SPRING	01-082-4254 1
70.	SPRING	01-082-4262 1
71.	SPRING	01-080-4260 1
72.	SPRING	01-081-4073 1
73.	SPRING	01-081-4309 1

NO.	PART NAME	PATR NO.
101.	WASHER	PGWP16X040020S 2
102.	WASHER	PGWP16X040025 1
103.	WASHER	PGWP16X042013 4

EXPLODED VIEW (Ⅲ)

